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SCHOOL RADIO CONCERTS UNDER THE DIRECTION OF WALTER DAMROSCH

The National Broadcasting Company, Inc., 711 Fifth Avenue, New York City, has issued the following announcement.

Walter Damrosch's second season of radio concerts for schools and colleges is scheduled to open October 11 under the auspices of the National Broadcasting Company.

The enormous success of last year's series has resulted in a decision to increase the area over which the concerts are broadcast. M. H. Aylesworth, president of the National Broadcasting Company, states that the company's entire two networks, covering some sixty odd stations will be hooked up. This will make it possible for the programs to be heard by nearly every community east of the Rocky Mountains. The concerts will be known as the NBC Music Appreciation Hour.

Following last year's general plan, there will be four series of concerts graded from the third grade through the high school and the college. Each series will include twelve programs. There will, however, be a change in the order in which the series are given. Series A, for children in the third and fourth grades, and Series B, for the fifth and sixth grades, will be presented on the same Friday. On alternate Fridays Series C, for the seventh, eighth, and ninth grades, and Series D, for high schools and colleges, will be given.

Mr. Damrosch has worked out entirely new programs for the four series. He has also prepared a teachers' manual of questions and answers, similar to the one used last year, to supplement the broadcast. The purpose of these questions is to help the pupils to express their impressions of the concerts in words and to stimulate their imagination.

With regard to his plans for next season and the results of the past year, Mr. Damrosch said:

"I wish again to emphasize that these concerts are in no way to be considered as substitutes for local teaching. Instruction in singing and in instrumental playing and the formation of orchestral groups are most essential to proper musical development. This course is intended to supplement the music instruction already given in schools. It is a course in appreciation rather than in technique.

"The results of last season's concerts far exceeded my expectations. From evidence I received in the form of letters, it seems safe to say that we have made thousands of new young disciples for symphonic music. They are able to identify by sound the various instruments used in a symphony orchestra, and they have developed the beginning of a real interest in the works of the great masters.

"I feel I must express my sincere thanks to the school teachers and principals of the country for their able co-operation. Their assistance contributed a great deal in offsetting the handicap of not being able to come into actual contact with the children. In many cases they themselves generously financed the purchase of radios in order that their pupils might listen in. Numbers of them wrote that they supplemented my explanations over the air by showing the children pictures of the instruments of the orchestra, of the orchestra itself, and of the composers whose works appeared on the programs. Ideally, this should be done in every school and classroom if the greatest value is to be had from the series.

"One of the results of the concerts that has already become apparent is the organization of school orchestras. I have received many letters, from both teachers and pupils, asking for advice about organizing such musical groups. I believe the eagerness displayed in forming these new orchestras is just the beginning of the increased interest in instrumental music on the part of school children throughout the country."

The schedule of concerts for next season is as follows:

Grades III and IV at 11:00 A.M. Grades V and VI at 11:30 A.M.	Grades VII, VIII, and IX at 11:00 A.M. High Schools and Colleges at 11:30 A.M.
October 11	October 18
October 25	November 1
November 8	November 15
November 22	December 6
December 13	December 20
January 3	January 10
January 17	January 24
January 31	February 7
February 14	February 21
February 28	March 7
March 14	March 21
March 28	April 4

In developing the four series, Mr. Damrosch has followed somewhat the same idea as last year, introducing the younger children to the instruments of his "musical family," taking up in detail the various kinds of instruments, and touching on the various forms used in symphonic music. He has tried to appeal to the imagination through such programs as "Fairy Tales from Many Lands," "Dances of Foreign Lands," "Music Inspired by Greek Myths," "Fun in Music," and "Rounds and Canons." The oldest group, namely, that made up of the students in high schools and colleges, has progressed sufficiently to have an entire symphony given in its series.

Mr. Damrosch has outlined the subjects of his concerts as follows:

Grades III and IV, Friday at 11:00 A.M.: October 11, "My Musical Family"; October 25, "The Stringed Instruments"; November 8, "Wood-Wind Instruments"; November 22, "Brass Instruments"; December 13, "Percussion Instruments"; January 3, "Nature in Music"; January 17, "Fun in Music"; January 31, "Animals in Music"; February 14, "Fairy Tales from Many Lands"; February 28, "Rivers in Music"; March 14, "Dances of Foreign Lands"; March 28, "American Dances."

Grades V and VI, Friday at 11:30 A.M.: October 11, "The Overture"; October 25, "The Classic Suite"; November 8, "The Modern Suite"; November 22, "Rounds and Canons"; December 13, "The March"; January 3, "The Stringed Instruments"; January 17, "Wood-Wind Instruments"; January 31, "Brass Instruments"; February 14, "Percussion Instruments"; February 28, "Motion in Music"; March 14, "Humor in Music"; March 28, "Emotions in Music."

Grades VII, VIII, and IX, alternate Fridays at 11:00 A.M.: October 18, "The Overture"; November 1, "From Minuet to Scherzo"; November 15, "From Minuet to Waltz"; December 6, "Rounds and Canons"; December 20, "Music Inspired by Greek Myths"; January 10, "Music Inspired by Legends"; January 24, "Music Inspired by History"; February 7, "Dances of Foreign Lands"; February 21, "The Suite"; March 7, "The Symphony"; March 21, "The Symphony"; April 4, "The Symphonic Poem."

High schools, colleges, and music clubs, alternate Fridays at 11:30 A.M.: October 18, "The Overture"; November 1, "Rounds and Canons"; November 15, "The Classic Suite"; December 6, "The Modern Suite"; December 20, "The Theme and Variations"; January 10, "Dance Forms"; January 24, "Nature in Music"; February 7, "Music Inspired by Shakespeare's Dramas"; February 21, "Wagner Program"; March 7, "The Symphony"; March 21, "The Symphony"; April 4, "The Symphonic Poem."

An important part of this educational series is that an effort will be made to answer all questions and requests for information sent to the National Broadcasting Company in relation to the series. Mr. Damrosch's assistant, Ernest La Prace, is in charge of this service.

THE BUFFALO COURSE FOR COLLEGE FRESHMEN ON HOW TO STUDY

In the issue of *School and Society* for June 1, 1929, Dean E. S. Jones, of the University of Buffalo, describes the course given in that institution for Freshmen who enter with relatively low standing from high school.

The type of students enrolled in the class is described by Dean Jones as follows:

> The first summer it was required only of those from the lowest two-fifths of their high-school graduating classes, but for the past two summers it has been required also of those from the middle fifth of the smaller high schools of the state unless these applicants had received high scores in the intelligence tests.

After the students had received three weeks of training, they reported their judgments of the advantages which they had gained from the course. Dean Jones summarizes their statements as follows:

> On the basis of unsigned reports from students at the end of the course and from comments given later to the personnel office, we are able to classify the various aspects of the course in the approximate order of their value from the students' point of view.
>
> 1. Practice in taking notes from lectures stands out as the most valuable drill in the experience of the past two years. Twelve lectures an hour in length were delivered, eight of these on the various techniques of study by those administering the course and four by other speakers on more general topics. At the end of each lecture all the notes were collected, carefully graded, and marked, and the next day each student was interviewed on this basis, usually by the person delivering the lecture. The notes were all discussed with each one as to their logic, their completeness, their accuracy and form. All were urged to adopt the outline method in order to avoid the danger of becoming mere recorders. By a fairly objective device for scoring notes, it was possible to show marked improvement in note-taking over the three-week period. Many of these students had never taken notes before, and only a few had given attention to the effectiveness of their notes.
>
> 2. Next in value came the drills in writing English themes, followed by individual conferences with expert college instructors in this subject. These themes were usually written under pressure of time, before the instructor, and were then read aloud to the student later, with particular attention given to correct sentences and to clarity.
>
> 3. The content of the lectures was considered next in importance by these students. The most frequently mentioned as valuable were the lectures on

purpose, habits, memory, and attentiveness. Comments were made to the effect that such lectures gave them new insights, concrete suggestions to try out in their studying. As one man put it, it made studying for the first time "something to get excited about."

4. For drills in rapid reading, newspaper clippings were passed to each student at least once a day, and record was made of the time required for reading these by each student. The comprehension, or ability to answer questions on the printed matter, was also checked, so that mere skimming over the pages without understanding could be detected.

5. For training in assimilating the content of books, required assignments were given from three books on study, and additional assignments from which selection was optional were suggested. For example, those intending to study medicine later were advised to read and report on *Arrowsmith*, by Sinclair Lewis.

6. Problems in mathematics were also of value to those planning for a mathematics or science major. There was a partial review of the main concepts of intermediate algebra, but particular stress was placed on the methods of solving and checking simple problems.

7. To acquire practice in using library reference books, a number of assignments were given to look up information in twenty miscellaneous common reference books. Various dictionaries, encyclopedias, almanacs, etc., were discussed, and finally the students were examined as to their ability to trace the best source of information for a number of unfamiliar subjects.

8. Oral ten-minute reports were required on outside reading. The form and the content of what was discussed were both critically examined later. This drill proved of first importance to two but was considered of minor importance by the others.

9. Experiments were tried out in memorizing lists of foreign words. There were demonstrations, rather than drills, in the use of a set of cards for building up vocabularies. To several students this was enlightening.

10. A good deal of time was spent on drill in taking notes from difficult and abstract mimeographed excerpts from textbooks. It surprised us that it was not considered of greater value. Our surmise is that it is so different from the usual habit of studying from books—underscoring or the mere passive surveying of the page—that it was felt to be distasteful and unnecessary. However, two out of forty students did feel that it was the single most important drill that was given.

Taken altogether, the results of this preliminary course justify its continuation as a regular procedure.

THE LIBRARY AND EDUCATION

Two publications have recently been issued which will help school librarians. One is a pamphlet of twenty-six pages prepared

by John Cotton Dana, the late librarian of the Public Library of Newark, New Jersey, and entitled *The Pleasant Art of Getting Your Own Library*. The other is a pamphlet of thirty-six pages issued jointly by the Baltimore public schools and the Enoch Pratt Free Library, Baltimore. This pamphlet, entitled *Adventures in the Library: Magic Keys to Books*, was prepared by Angela M. Broening and Mary S. Wilkinson.

The death of John Cotton Dana is a serious loss to the general profession of education as well as to the special profession of which he was a conspicuous member. The pamphlet on one's own library, which appeared shortly before his death, is intended to encourage pupils as well as others to buy books. The opening paragraphs are as follows:

1. Buy Some Books

Everyone should buy books. By that I mean that every person of intelligence, able to read ordinary print with some ease, will find that the habit of owning books and having them about him will give him more pleasure in the long run than any other habit he can form. Only a few buy and read books, to be sure, but then only a few get out of life all the pleasure they are capable of getting. So the small number of the bookish does not prove anything except that the wise are always few!

2. But if I Don't Read?

But you may say you rarely read in books, and so why buy any?

Well, to this there are several answers. One is that books make fine furnishings. They do good to the room they stand in. They give your house an air, and you are obliged to breathe that air! Then, too, they are tempting. Who knows when you will yield to the temptation to enjoy books if they are always at hand? And, again, there are family and friends; perhaps they will bless you for giving them a chance at pleasures which you miss yourself. And, again, buying books is a joyful task, and you cannot give your mind to it for ever so short a time each week or month, when you select the next volumes for your shelf, without getting a subtle pleasure much beyond that of choosing a new cravat or another picture or a new brand of cigars. And, once more, all book-buyers are bookish, even if they never read in their books a single line. You meet followers of book fads, first editions, American history, sixteenth-century poetry, or what not who will tell you they buy but do not read. Don't believe them. They may not read what they collect, but you may be sure they have their own private bookish tipples, in which they quietly indulge and out of which they get a mild but penetrating literary intoxication.

But here are reasons enough. The point is proved. It pays to buy books

A typical paragraph from the Baltimore publication is as follows:

Very few people know how much information is looked up in the magazines that are published. The Baltimore Public Library takes over a thousand different magazines. They cover every subject. They are used by men in the building trades, in factories, stores, and offices. They are used by housekeepers, stenographers, clerks. They cover all the subjects that are studied in the colleges and schools. There are more than fifty magazines published just for school teachers.

In the following list the magazines are arranged by subjects. The reason they are included in this little course is that the boys and girls of Baltimore may know what magazines they can find on subjects that they might be interested to take up for a life-work. Some of them tell about hobbies and how to do things that boys and girls want to do right now. Every one of the magazines is taken at the Library because many people have asked for it to help them in their work.

The Library also keeps carefully a bound file of the back numbers of most of these magazines. You can find what is in them by the use of the *Reader's Guide*, the *Industrial Arts Index*, and other indexes.

FREE SAMPLE COPIES OF TEXTBOOKS

One of the leading publishers of textbooks has written to the editors of the *School Review*, inclosing a copy of an editorial published in *Ohio Schools*. The letter and editorial are quoted in full as follows:

An editorial in the June issue of *Ohio Schools* entitled "Your Friends, the Publishers" has just come to our notice, and we take the liberty of bringing it to your attention, hoping that you may perhaps find it of sufficient merit to reprint in your columns.

As *Ohio Schools* points out, the cost of gift copies of new textbooks has become a very large item of expense to the publisher. A considerable portion of this item is a necessary expense. Publishers expect and desire to send gift copies to those who are really interested in the adoption of new books. However, requests which do not fall in this category are so numerous as to add largely to the textbook publishers' cost of sample copies, and, if this can be reduced, it is true, as this editorial from *Ohio Schools* states, that the saving would be reflected in lower prices for textbooks.

Your Friends, the Publishers

There has long since ceased to be any doubt about the constructive services of the textbook publishers to public-school development. The day of questionable methods in the marketing of textbooks has also for the most part slipped into the limbo of forgotten things. Publishers are still the most potent force in curriculum development in America in spite of a generally awakened interest

in this activity on the part of educators. The friendly attitude that uniformly exists between buyer and seller in the textbook business is a praiseworthy condition.

But publishers are sometimes thoughtlessly imposed upon by teachers, and a word needs to be said in this connection. The bane of the business is the terrific drain in the giving of free samples of textbooks. Perhaps publishers were originally at fault in encouraging this practice, but, in fairness to them, teachers ought now to aid in checking the practice. Textbooks could be sold at lower figures if this item of selling expense were materially reduced. And the teacher does hold much of the power of improvement in her own hands.

Publishers are glad to have teachers manifest enough interest in some new publication to write for a copy, but why should the teacher expect to get that copy without paying for it? Frequently there is no possibility whatever of its being considered for general use, but it is sent for merely because the teacher thinks it might be of value to her. In no other line of business would that same teacher expect to get a full-sized package of a product that interested her, although samples are sometimes offered. One cannot write for a tire for the automobile and expect it to be sent gratis on the theory that, if satisfactory, it may be adopted for all four wheels. Even a box of face powder cannot be obtained with the maker's compliments in the hope that, by thus submitting it, he may gain an exclusive five-year contract. Why should the publisher's wares be regarded so differently? If the teacher wants a copy of a new text, the equitable thing to do is to send along the money to pay for it. Or, because administrative heads of school systems are generally expected to be in touch with the newest materials, she can probably obtain a copy from the superintendent's office for such inspection as she wishes to make; or she can ask to have a representative call. Publishers will never escape the necessity of supplying samples to school executives or teacher committees which are definitely charged with the duty of specific text adoptions, but they ought not to be subjected to indiscriminate requests.

The self-respect which makes us unwilling to step into a store and ask a merchant to give us an article off his shelves ought to govern us in our relations with textbook publishers. Let us be just as alert and responsive to publishers' announcements as ever, but let us play the game in a broad-minded way by paying for what we want. Free book samples are not a proper perquisite of the office of teaching.

A NON-COLLEGIATE CURRICULUM AT THE TECHNICAL HIGH SCHOOL, OAKLAND, CALIFORNIA

The following communication was sent to the editors of the *School Review* by Percy E. Rowell, head of the Non-collegiate Division of the Technical High School, Oakland, California.

About a year ago I wrote to all the school departments in the United States having an enrolment of ten thousand or more students with regard to the problem of providing a curriculum for those high-school students who care neither to prepare for college nor to take commercial or industrial courses. I have received so many requests for information concerning the results which have been obtained from the experiment that I have prepared the following bulletin, in which I have tried to incorporate answers to all the questions which have been asked, and I am sending copies to those who I am sure are interested in this movement. If there are points which I have not covered and on which you may desire more information, I shall be pleased to answer in a personal letter.

For several years classes have been maintained in the elementary and junior high schools for those students who, for various reasons, do not fit into the standard classes. When compulsory education raised the limit to eighteen years, these students had to be taken care of in special classes, which, for the lack of a better name, were called *z*. It was soon discovered that the work in these *z* classes consisted of about the same subject matter as the work in the college-preparatory courses but given more slowly and in a manner less rich in detail. Each department of the school which had such classes conducted them independently of the other departments, and there was no co-ordination between them.

The Non-collegiate Division was started in August, 1928. In January, 1929, courses were being given as follows: English, four classes; mathematics, one class; world-history, two classes; United States history, three classes; economic geography, two classes; science, two classes; general language, two classes; Spanish, one class—with twelve teachers. None of these courses were of the diluted form but were developed into something entirely new. The meetings of the teachers of this division were seminars, in which the problem as a whole was considered, and the teachers were instructed to break away from the traditional in order to establish effective solutions. The results of all the experiments have been preserved, and the gains of this year will serve as foundations for the experiments of next year.

In preparing the courses, the teachers were instructed to keep in mind the following objectives: immediate usefulness; social adaptation; business availability; application to local conditions; preparation for everyday life; to teach current events, whether in mathematics, English, science, geography, or history; to make use of a rich content rather than to dilute it; to give a large variety of topics in order to take care of a quickly changing interest; to make use of the desire for repetition of mechanical processes; to use drawing as a means of expression; to strive for oral expression more than for written work; and, finally, which is the most important, to strive for continuous growth and not for continuous advance in subject matter.

Students may take only one subject in this division, or they may take two,

three, or four subjects, according to their ability or desires, on the advice of their counselors. Any student who shows power may be transferred from the non-collegiate courses to the college-preparatory courses. The door is always open. We are finding, however, that the courses in this division are proving so attractive that the movement is toward them and not away from them.

If we analyze the kinds of work by which persons earn their living, we will realize that, omitting the professions, industry, and agriculture, they occupy some clerical position; that is, they serve the general public. For this reason, their education should, first of all, develop social characteristics, contain the elements of the many phases of everyday life, and lay the foundation for a later adjustment to changing conditions. College-preparatory courses, even at their best, do not accomplish this end; they are preparatory only in the sense that they lead toward college. If diluted, as they sometimes are for the so-called "general" courses in the high school, they are even less preparatory for life if measured from either the social or the business point of view.

In order that contacts may be made with business, we have speakers from business houses, especially employment managers, address the students of the Non-collegiate Division concerning the qualities which are deemed desirable in employees.

In general, although we have no handwork, we are planning to develop the laboratory method of teaching in all the courses. We make use of visual aids for education not only by means of projection material, both moving and still, but also by means of material which might be considered as lecture-table apparatus.

We are now planning special rooms which are to be equipped for the work, but, since this has not been accomplished, a later bulletin will be issued which will contain a detailed explanation of the new plans and a description of the equipment.

PROGRESSIVE EDUCATIONAL ORGANIZATION IN CANADA

The *Christian Science Monitor* published the following statement.

Announcement by the premier of Ontario, G. Howard Ferguson, of his intention to reform the educational system of the province by means of legislation which he will introduce next session, was the high point of the Western Ontario Conservative Association convention. The premier's proposal is, in brief, to provide two years of high-school work in the public schools of the province and one year of university course in the high schools. Back of the plan is the idea that such a system would enable young people in the rural districts to remain longer under the family roof and parental guidance than is now possible and that it would also mean extensive saving in costs to rural people who send their children to high schools or universities.

The premier, who is also minister of education, set forth his ideal "to make

possible for every child in the province, regardless of its location, equal educational opportunity." He believes that by extending the public-school course to provide for children up to sixteen instead of fourteen years, as at present, he will help to accomplish that purpose.

Since the lower-school work now given in high schools would be given in public schools under the new plan, the premier proposes to give the high schools new work, and, to do that, he said, he would have high schools impart tuition for first-year university work. There are many failures now in first-year university work, he said, and the new plan would automatically do a lot of culling and sifting.

Concluding, Mr. Ferguson said the new system would result in a great saving of money, since it costs the government $400 a year for each university student and costs the parents from $800 to $1,000 more.

Those who are favorable to the development of public junior colleges in the United States will welcome Premier Ferguson's statement as powerful reinforcement of the positions which they have taken. Conservation of both public and private resources certainly dictates the reconstruction of the educational system on the North American continent. In the states of the United States experimentation often goes forward without clear official statement of its purposes. In the Canadian provinces reforms are more explicitly official than on this side of the border. If Ontario is to have public junior colleges, definite reasons for their organization will be given to the public.

The educational systems of the United States will profit by the Canadian discussions and will watch with interest the reforms which result from these discussions.

EXAMINATIONS

England is the home of examinations. Both the pupil in the elementary school and the student in the higher institution are examined at every turn in their careers. American educators who have imitated English practice to some extent will profit by the discussions which are being carried on in England at the present time. A leading article in the London *Times Educational Supplement* contains the following paragraphs.

The subject of school examinations caused more excitement than almost any scientific question at last year's meeting of the British Association; and this year, in South Africa, they are again to be thrown into the arena. It is toward

this target that the critics of education aim their keenest shafts of wit. Thompson, the master of Trinity, described an examination as a presumptuous attempt to gauge the depths of human ignorance. More recently, the late Sir Walter Raleigh, of Oxford, remarked that in an examination those who do not want to know ask questions of those who cannot tell. He also pointed out that many a candidate failed to distinguish between the day of examination and the day of judgment. More recently still, Sir Michael Sadler has been assuring us that examinations are pushing education farther and farther along the wrong road. . . . .

The examination of secondary schools is not rendered compulsory by law. Yet the compulsion is there for all that. It is the compulsion of social pressure. It comes partly from the Board of Education, partly from the parents, partly from the prospective employers. So great is it in its combined effect that it is virtually irresistible. The Board has standardized a certain number of public examinations so near the matriculation standard that "credits" in certain specified subjects secure for the candidate exemption from matriculation. They are known as first school examinations, and the first school certificate is regarded as a guaranty that the holder has duly profited by a secondary-school education. The Board fosters and spreads this view. The employer accepts it and wants to see the school-leaving certificate of the boy or girl who applies for employment.

The parent joins the conspiracy. He says in effect to the headmaster: "Of course, I wish my boy to take part in all the school activities—but I *do* want him to matriculate. He may, if you like, engage in sports, art, music, dramatic work, and other educational frills—but I do want him to matriculate, and that at the earliest possible age." What is the poor schoolmaster to do? He knows very well that only a small number of his brightest boys can matriculate without much training; he knows that a larger number can matriculate if they are skilfully coached; and he knows that about half his boys will never matriculate at all. They have not the brains to matriculate; and, if they are coached until their hair is gray, they will never get through the examination. To convince the parents of this is a hopeless task. Moreover, the schoolmaster himself cannot feel absolutely certain to which category each boy belongs—the possible or the impossible. So it is obvious that all boys must have their chance of getting the much-coveted certificate. It is obvious that they must all work on the prescribed syllabus. Is it, then, too much to say that the secondary school is dominated by the school-certificate examination? . . . .

The Board of Education maintains that a secondary-school pupil of average ability and of reasonable industry ought to pass the first school examination at about the age of sixteen or seventeen. Whatever meaning may be attached to that vague term "average ability," nobody would seriously contend that any but a mere negligible fraction of our secondary-school pupils are not of average ability. The school population consists of free-place pupils and of fee-paying pupils. The free-place pupils are, as a rule, the best brains from the elementary

schools and are high above the average. The fee-paying pupils come from well-to-do homes and presumably belong to the more cultured part of the community. Those who are below the average in ability are in a minority—probably a small minority. In the secondary-school pupil, therefore, ability is guaranteed; what about his industry? During the years of greatest examination pressure the boys and girls come home each evening with a home-work task which nominally takes two hours to perform but which actually takes three or four hours. They are more than reasonably industrious: they are unreasonably industrious. If we accept the Board's criterion, we must expect a large majority of the pupils in secondary schools to get the first school certificate.

What actually happens? So far as can be ascertained from the available statistics, only about one-half of the pupils sit for the examination, and about a third of these fail. In other words, only a third of our secondary-school pupils succeed in getting the certificate which testifies to their having duly profited by a secondary-school education. There is something wrong somewhere. Either the teaching in the secondary schools is woefully inefficient, or the examination itself is not what it purports to be. Nobody who knows the secondary schools at all—knows them, that is, from the inside—can accept the former explanation. The teaching is not always brilliant, but it is, on the whole, sound and competent. The fault must lie with the examination. It is not, in fact, what it claims to be. It claims to be an evaluative examination; it is really a selective examination. . . . .

Bad as examinations are, it does not seem possible to get along without them. Since we cannot end them, we must try to mend them. The first school examination evidently needs mending. The remedy most attractive to the secondary schools seems to consist in broadening the basis of the examination. The present examination rests on the belief that the pupils are far more book-minded than they actually are. It ignores the fact that many of them have their brains in their fingers, so to speak. The practical, the executive, and the artistic elements in the mental makeup of the pupils receive little or no recognition. The syllabus needs remodeling so as to place the practical and artistic subjects on the same level as the academic subjects.

THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATIONAL SOCIOLOGY

An attack on the secondary-school curriculum and a promise of reform are issued by a group of educators who have organized themselves for the promotion of educational sociology. The *New York Times* published the following statement of their pronouncements.

Secondary schools continue to teach traditional subjects which are of doubtful value to all but a small minority of their students because educators fear public criticism from those who will blame the schools if their children do not succeed in entering college, according to a study recently completed by the

National Society for the Study of Educational Sociology. The study, which is entitled *Objectives of Education*, was prepared by Philip W. L. Cox, Charles C. Peters, and David Snedden.

High-school education with all its novelty and embellishments has up to the present been unable to shake off the dead hand of formal requirements," says the study. "Until and unless it does so, it must fail to serve the youth and the democracy whose servant it is."

The remedy, according to the authors, lies in offering these "formal requirements" to only a select minority of students who have proved themselves capable of continuing their education through college. Such an arrangement would enable teachers to cover more ground and maintain higher standards.

The authors refer specifically to higher mathematics, English grammar, laboratory science, college-preparatory history, and foreign languages.

The objectives of education, say the authors, should be to narrow the gap between education and life and to make the curriculum fit the needs of individual students. The curriculum has not kept pace with the latest findings of educational sociology.

The study continues with specific criticisms of subjects which have been required of practically all high-school students from the beginning of public education.

"It is now certain," it says, "that the older schools sought to teach too much spelling and arithmetic. It is highly probable that modern high schools attempt to teach too much literature of classical kinds to those of their pupils who are on the lower levels of intelligence. We formerly taught much physiology as a basis for hygiene and much grammar as a basis for syntactical usage. For at least the less intelligent of our pupils these approaches were probably seriously wrong.

"Until very recently schools had ample mandate in this and other countries for teaching 'romantic,' 'heroic,' and 'nation-centered' history. Recently many historians have strongly denounced these practices.

"Greek and Latin were substantially functional toward the culture needed by frontier America, 1650–1850, when taken by the small fraction of persons destined to be intellectual leaders. But in recent years they have progressively ceased to be so functional.

"The study of algebra by girls has never been a functional study for culture, prevocational service, or mental training.

"American intermediate and high schools are today as deficient in the teaching of really functional civism as they were deficient in the teaching of 'health education' half a century ago."

The authors carry their criticism into the field of commercial education, which has won a place during the last few years in the curriculums of many secondary schools. At the same time public schools are unwilling to support industrial education.

This discrimination, says the study, is wrongly defended on the ground

that the commercial courses have a large intellectual content while the industrial courses have not.

The authors argue that competent stenographers practice a trade no less skilled than the trade of plumber, stationary engineer, or electrical constructionist, and there is consequently no more justification for public training of stenographers than for public training in other trades.

The study closes on an optimistic note, promising a scientific reform of the curriculum.

"In the curriculum of the future," it concludes, "each child will be helped to develop his individuality through positive successful contributions to the school, to his family, to his companions and employers, and to his community."

A description of a new curriculum based on science is only mildly cheering when the date of the appearance of this curriculum is in the future. Why not spend the energy which is devoted to demolishing algebra in the very useful labor of actually putting plumbing on the same intellectual plane as stenography? Why are educational sociologists satisfied to promise without delivering? The world is less hospitable than it used to be to criticisms of the schools when no substitutes are offered for that which is declared to be undesirable. Education welcomes contributions. It is surfeited—not to use a stronger word—with recommendations.

THE RELATION OF SUCCESS IN CERTAIN SUBJECTS IN HIGH SCHOOL TO SUCCESS IN THE SAME SUBJECTS IN COLLEGE

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One of the most warmly debated questions in academic circles today is the question of the type of tests to be used to determine the fitness of applicants for admission to college. The value of any test lies in the accuracy with which it can predict the success of the applicant in college work. Much patient research has therefore been devoted to the task of determining the predictive value of the various types of tests now in common use, and the study here reported is an effort to contribute something, small though it be, to that enterprise. It is concerned with only one of the several kinds of tests in common use for determining fitness for college work, namely, the school record, and with only one aspect of that record. It deals with the correlation of success in certain groups of subjects in high school with success in the same groups of subjects in college. The general correlation between high-school and college marks, particularly those of the Freshman year in college, has been determined in other investigations, but the extent to which success in certain groups of subjects in high school is predictive of success in the same groups of subjects in college is a question worthy of careful study.

How valuable studies in this field might be, provided they could be made sufficiently thoroughgoing and extensive, can readily be imagined. If it could be determined that success in certain subjects in high school is a fairly certain prediction of success in the same subjects in college, much fumbling might be avoided on the part of the individual student in the selection of a field for specialization and perhaps even in the selection of a suitable institution. If, on the other hand, no correlation or a low correlation is shown, the result may indicate either the need for better adjustment of teaching

methods on the part of one or both of the institutions concerned or the inadvisability of including certain subjects in the college-preparatory curriculum. Such studies, if sufficiently exhaustive, might indeed provide a sound basis for a really scientific revision of the college-preparatory curriculum.

For measuring fitness for college there are in general use three kinds of tests: (1) entrance examinations, (2) intelligence and scholastic-aptitude tests, and (3) school records. One of Thorndike's investigations has shown clearly that success in college-entrance examinations does not give a reliable forecast of success in college, at least as measured by success in Columbia University. He found that in a considerable number of cases students who had done very poorly in the entrance examinations proved to be among the best students in their college classes. "Of the students who were in the lower half of the group in entrance examinations, nearly 40 per cent are found in the upper half in the last three years of college."[1] His conclusion is that "the relation between standing in entrance examinations and standing in college work is only moderate even in the case of the work of [the] Freshman year and dwindles steadily, the coefficients of correlation being in order .62, .50, .47, and .25."[2]

Thorndike's investigation and similar investigations seem to indicate clearly that the predictive value of the ordinary entrance examination is inconsiderable—so inconsiderable that it has been said of it that "no advocate of examinations ever supposed that the purpose of examinations was to furnish a prediction of what a boy would do . . . . through his college course, or indeed even through the first year of the course."[3]

Obviously what is needed is some kind of test that will predict the degree of success that may reasonably be expected. In response to the demand for this type of test, there has come, with the development of applied psychology, the psychological examination—the so-called "intelligence" test—which has been widely used during

[1] Edward L. Thorndike, "An Empirical Study of College Entrance Examinations," *Science*, XXIII (June 1, 1906), 842.

[2] *Ibid.*, pp. 840–41.

[3] Adam LeRoy Jones, "Entrance Examinations and College Records: A Study in Correlation," *Educational Review*, XLVIII (September, 1914), 110.

recent years. To what extent is its predictive value superior to that of the ordinary entrance examination?

Wood[1] reported a correlation of approximately .60 between scores on the Thorndike Intelligence Examination for College Entrance and marks earned at Columbia College. Nelson and Denny, commenting on this correlation, said that "this would seem to be so high as to indicate a relatively high predictive value for the test, considering the diversity of factors aside from intelligence which are involved in determining success in college. Other studies, however, show that no such correlation is obtained at other institutions."[2] Moreover, in comparing scores on the Thorndike intelligence examination with marks earned during the first two years of work at the University of Wisconsin, Nelson found a correlation of only $.36 \pm .05$.[3] He also reported that similar studies at Brown University show correlations of .37 and .53; at Stanford University, .53; at the University of Chicago, .41; at the University of South Dakota, .27; and at the University of California, .38.

As a development of the usual intelligence examination has come the scholastic-aptitude test, which attempts to measure scholastic capacity in terms of particular rather than general intelligence. Each test consists of a battery of nine or ten different tests, each testing a different aptitude. From these subtests a general score, indicated by the letter A, B, C, or D, and a percentile mark are obtained. In addition, the actual score on each subtest is used as some indication of the ability of the individual in a particular line.[4]

Intelligence and scholastic-aptitude tests are, to be sure, still in their infancy, but it may be questioned whether they alone can ever be relied on as a means of academic prognosis. Other factors besides

[1] Ben D. Wood, *Measurement in Higher Education*, p. 72. Yonkers-on-Hudson, New York: World Book Co., 1923.

[2] M. J. Nelson and E. C. Denny, "The Terman and Thurstone Group Tests as Criteria for Predicting College Success," *School and Society*, XXVI (October 15, 1927), 501–2.

[3] M. J. Nelson, "The Thorndike Intelligence Examination for High School Graduates as a Criterion for Predicting College Success." Unpublished Master's thesis, University of Wisconsin.

[4] Wilson Farrand, "The Determination of Fitness for College," *School and Society*, XXV (May 21, 1927), 595–96.

intelligence enter into the making of a successful school and college record. If some type of achievement test could be devised which would measure persistence, effort, determination, mental attitude, interest, and memory in addition to mere ability to learn, we should approach the solution of the problem. A student of average ability may possess these mental characteristics while a student of marked ability may be deficient in them or lack them entirely. Some recognition of the necessity of taking account of these more imponderable characteristics is seen in a report of the Commission on Scholastic Aptitude Tests of the College Entrance Examination Board.[1]

Since the correlation between school average and college marks, as shown by this report, was higher than the correlation between either entrance examinations or scholastic-aptitude tests and college marks, the former correlation seemed to the writer to offer a promising field of investigation and became the starting-point for the study here reported. Certain questions at once presented themselves. What correlation exists between success in high school and success in college as shown by general averages? What correlations exist between success in given subjects or groups of subjects in high school and success in the same subjects or groups of subjects in college?

The first of these questions has been answered, at least in part. The general correlation between high-school and college marks, particularly those of the Freshman year in college, has been determined in earlier investigations, but the correlation between success in the various groups of subjects in high school and success in corresponding groups of subjects in college has apparently not been made the subject of special study. The writer hopes that his investigation may make a small contribution to the solution of the general problem.

The investigation is based on a study of the high-school and college records of students who graduated in 1921, 1922, and 1923 from the New York State College for Teachers. Only those students whose high-school work was done under the supervision of the Regents' system of New York State are considered, and the high-school marks are those obtained in Regents' examinations. Since the state of New York outlines the syllabus in every course, sets exam-

[1] *The Tests of 1927*, pp. 26–28. Second Annual Report of the Commission on Scholastic Aptitude Tests of the College Entrance Examination Board.

inations each year as nearly uniform in difficulty as possible, and reviews the marking of the examination papers, the resulting examination marks are probably the most satisfactory marks available for the purposes of an investigation of the type undertaken. Each of the high-school courses was assigned to one of the subject classifications adopted by the University of the State of New York: English, mathematics, modern foreign languages, ancient languages, science, and social sciences.

When this classification had resulted in six groups, the college courses were similarly grouped. In order to obtain group marks, the mark in each course was multiplied by the number of credits allowed that course. The sum of the products was obtained for each group and divided by the total number of credits for the courses in the group. Thus, the group mark was a weighted average. The weighted group averages for the high-school and college courses were then correlated.

The general-average correlation was obtained similarly. Each group mark was multiplied by the sum of the credits for all the courses in the group. The products for all the separate groups were added, and the sum was divided by the total number of credits. The weighted general-average marks for all high-school work were correlated with the weighted general-average marks for all college work. The following subjects were not placed in any of the groups: philosophy, psychology, industrial education, commercial education, music, fine arts, physical education, and physiography.

In order to obtain percentage marks from the letters used by the New York State College for Teachers, the letter symbols were translated into numerical equivalents as follows: A = 95, B = 85, C = 75, D = 65, and E = 30. The numerical equivalents, therefore, were the medians of the intervals represented by the letters. The letter E occurred only a few times, as few students who received E's were in the classes at graduation. The distribution of the weighted averages of college marks was only slightly greater than the distribution of the weighted averages of high-school marks, which, of course, were confined between the percentages of 60 and 100. It should be noted that the passing mark for both high school and college was 60 per cent. In finding the average for each group, the number was

carried to one decimal place. When the averages were used in the correlations, .5 was considered the dividing point; for example, 88.5 was considered 88, while 88.6 was considered 89.

Before the results of the investigation are presented, it may be interesting, for purposes of comparison, to summarize the results obtained by earlier investigators in related fields. Weglein, for example, in 1917 calculated the coefficients of correlation for corresponding subjects in the first and second years of the high school as follows:[1]

English I and English II: $r = .83 \pm .05$; $N = 116$
Latin I and Latin II: $r = .63 \pm .05$; $N = 79$
Algebra I and Geometry I: $r = .63 \pm .04$; $N = 89$
Drawing I and Drawing II: $r = .55 \pm .04$; $N = 118$

Weglein found also the correlation between two different subjects in the same year; for instance, the coefficient of correlation for English II and Latin II was .52; that for English II and Geometry I was .36; and that for Latin II and Geometry I was .55. It will be noted that these correlations are lower than the correlations between the same subjects in different years. Weglein then assembled the correlations of each of the subjects in each year of the high school with each of the other subjects in the curriculum for the same year and compared the various subjects by noting the percentage of cases in which the correlations were .50 or more. The subjects arranged according to the percentage of correlations equal to .50 or more are as follows: science, 60 per cent; history, 52 per cent; commercial subjects, 50 per cent; English, 50 per cent; foreign languages, 33 per cent; and mathematics, 28 per cent.

It is interesting to note that Weglein found that science is the subject that carries over best from one year to the next—a result in marked contrast to the findings of the present investigation.[2]

Dearborn[3] compared averages of all marks in high school with

[1] David Emrich Weglein, *The Correlation of Abilities of High School Pupils*, pp. 42–43. Johns Hopkins University Studies in Education, No. 1. Baltimore: Johns Hopkins Press, 1917.

[2] *Ibid.*, p. 76.

[3] Walter Fenno Dearborn, *The Relative Standing of Pupils in the High School and in the University*. Bulletin 312 of the University of Wisconsin. High School Series, No. 6. Madison, Wisconsin: University of Wisconsin, 1909.

averages of marks for separate years in the University of Wisconsin and also averages of all marks in a particular subject in high school with averages of all marks in the same subject in the university, covering the following subjects: history, German, English, and mathematics. The method of comparison, however, was not the statistical method employed in this study but a graphical method. The conclusions, which must be general in work so conducted, indicate that students tend to maintain in the university the same relative rank which they held in the high school. The results show that, if a student ranked in the first quarter of a large class in the high school, the chances are four out of five that he will not fall below the first half of his class in the university; the opposite facts are nearly, if not quite, as true. Dearborn concluded that in 75 per cent of the cases the standing in the university can be predicted from the standing in the high school. The change in relative standing in the four quarters was found to be greater in English and mathematics than in history and German; in other words, the correlation in English and mathematics was lower, the subjects in order of correlation being history (highest), German, English, and mathematics. As will be noted later, the results are contrary to the results of the present investigation. In view of the fact that Weglein's results with regard to English are in agreement with those of this study, the question may be raised whether Dearborn's method is reliable.

Some investigation has also been made of the correlation between general averages in high school and general averages in college. In 1912 Pettit[1] found a correlation of .63 between averages of all high-school marks and Freshman marks in Columbia College. Kelly[2] objected to the use of general averages by Dearborn and Pettit to determine the rank of pupils because this method does not take into consideration differences in the standards of marking in the various high schools attended by the pupils. In order to obviate this diffi-

[1] Walter W. Pettit, "A Comparative Study of New York High School and Columbia College Grades." Unpublished Master's essay, Teachers College, Columbia University, 1912.

[2] Frederick James Kelly, *Teachers' Marks: Their Variability and Standardization*, pp. 6, 13. Teachers College Contributions to Education, No. 66. New York: Teachers College, Columbia University, 1914.

culty, Lincoln in 1917 made a study of the records of 253 students in Harvard in which the passing marks in the high schools involved were transformed into a single common scale. Lincoln wrote: "The most striking fact shown by the figures is that there is a much closer relation between the quality of the work done in high school and the quality of work done in college than between the quality of work done by the same pupils in college and on the entrance examinations"[1]—another indication of the superiority of the school record over other tests as a basis of prognosis of success in college. Wood[2] found a correlation of .644 ($N = 144$) between two-year scholarship scores in Columbia College and Regents' examinations. Smith[3] found a correlation of .53 ($N = 120$) between averages of all high-school marks and averages of all marks at the University of Iowa. It will be seen later that these results are in general agreement with the results of the present investigation.

Seven correlations have been computed between the high-school marks and the college marks of the group of graduates of the New York State College for Teachers. Of these correlations, only that dealing with general averages can be compared with the results of any of the investigations mentioned. So far as the writer knows, no previous study has been made of material similar to that dealt with in the rest of the investigation.

As indicated in the description of the procedure followed in this study, the high-school marks were weighted according to the Regents' credits assigned to the various courses, and the college marks were weighted according to the credit hours. As all the high-school marks are Regents' marks, a common measure is insured. Pearson's formula $r = \dfrac{\dfrac{\Sigma xy}{N} - d_x d_y}{\sigma_x \sigma_y}$ was used in working out the correlations. The results are shown in Table I.

[1] Edward A. Lincoln, "The Relative Standing of Pupils in High School, in Early College, and on College Entrance Examinations," *School and Society*, V (April 7, 1917), 419.

[2] Ben D. Wood, *op. cit.*, p. 85.

[3] F. O. Smith, *A Rational Basis for Determining Fitness for College Entrance.* University of Iowa Studies in Education, Vol. I, No. 3. Iowa City, Iowa: State University of Iowa, 1912.

The first fact to be noted is that all the correlations are low. That the correlation between success in high school and success in the four years of college should be low is to be expected for two reasons. First, since about 50 per cent of the high-school graduates who enter college are eliminated during the four years of college, the standards are gradually raised. It has been shown by Lincoln and Thorndike in the investigations cited that the correlations decrease steadily from the Freshman year on. Second, high marks in college are more difficult to attain than are high marks in high

TABLE I

CORRELATION BETWEEN HIGH-SCHOOL MARKS IN CERTAIN SUBJECTS AND COLLEGE MARKS IN THE SAME SUBJECTS

Subject	Number of Cases	Coefficient of Correlation	Probable Error
General average	210	.498	.035
English	210	.489	.035
Ancient languages	90	.390	.060
Mathematics	196	.343	.042
Social sciences	199	.336	.042
Modern foreign languages	169	.322	.046
Exact sciences	175	.151	.050

school because the college eliminates at the beginning all those who cannot pass examinations with marks of 60 per cent.

The second outstanding fact shown by Table I is that the correlation between the general averages in high school and the general averages in college is higher than the correlation between the high-school marks and the college marks in any of the subjects under consideration. This fact would seem to indicate either that the college—at least the New York State College for Teachers—eliminates those who cannot successfully accomplish a variety of lines of work or that the ability of the successful student is general, that is, not limited to certain lines.

In this connection it is interesting to refer to a study by Burris.[1] The correlations which he secured seem to show the absence of any

[1] W. P. Burris, *The Correlation of Abilities Involved in Secondary School Work*. Columbia University Contributions to Philosophy, Psychology, and Education, Vol. XI, No. 2. New York: Columbia University, 1903.

special grouping of school abilities. Burris states that the correlations "suggest that an adequate study of school abilities would make our common talk about the grouping of subjects ridiculous."

This finding seems also to bear out the conclusion of Frailey and Crain that "high ability is comparatively constant: that excellence in one activity means ability for similar excellence in another activity. And, on the other hand, ... stupidity is comparatively constant; that lack of ability in one activity means similar lack of ability in other activities."[1]

The correlation between general averages in the high school and general averages in college in the present investigation is .498. This, it will be noted, is lower than the correlation of .644 obtained by Wood in comparing scholarship scores in Columbia College with marks on Regents' examinations. Wood's correlation, however, involved only two years of college work; and it would be expected, as has been pointed out, that the correlation would decrease each year as the college course eliminated all but the best students. Since the goal on entering college is graduation after four years rather than withdrawal at the end of two years, the correlation obtained in this investigation is probably more nearly accurate as an indication of probable success in college.

The correlation of .53 found by Smith between averages of all high-school marks and averages of all marks at the University of Iowa is very close to the correlation found in this investigation, but the writer was not able to learn whether the marks in that investigation were weighted nor whether the high-school marks were reduced to a common scale, as is done by the Regents' system. It is not entirely certain, therefore, that the results of the two investigations are exactly comparable.

More interesting, however, than any of the correlations so far discussed are the correlations between the high-school marks and the college marks in the same subject. The only investigation known to the writer that deals in any way with this matter is the study made by Dearborn which has been referred to. No exact comparison, however, is possible between Dearborn's results and the results of this in-

[1] L. E. Frailey and C. M. Crain, "Correlations of Excellence in Different School Subjects Based on a Study of School Grades," *Journal of Educational Psychology*, V (March, 1914), 148.

vestigation because (1) Dearborn's investigation was based on the relative standing of students in high school and college in the various subjects rather than on percentage marks, (2) the high-school marks were not reduced to a common scale, such as that provided by the Regents' system, and (3) the results were presented graphically instead of statistically.

It will be recalled that Dearborn found that the subjects ranked according to degree of correlation are as follows: history (highest), German, English, and mathematics—a result entirely out of harmony with the results of the present investigation and not supported by the results of any of the other investigations referred to, such as that of Weglein.

In the present investigation the highest correlation for any subject is that for English (.489). The difference between this and the correlation for general averages is so small as to indicate the very great importance of English in a college-preparatory curriculum. It would seem to be a fair inference that a student's performance in English is a very sensitive indication of his intelligence and that English is the best single subject on which to rely in the determination of fitness for college unless, indeed, the high correlation in the case of English may mean merely that the present almost universally used method of testing the acquisition of the student in any and all subjects—the method of the written examination—tests the student's power of verbal expression rather than his actual mastery of the data of the given field of study and his ability to deal practically with these data.

The next highest correlation is that for ancient languages (.390). This correlation, however, is noticeably lower than the correlations for the general averages and English—a somewhat surprising result in view of the fact that ancient languages are taken only by a highly selected group and in view of the general belief that a highly skilled technique has been developed in the teaching of them. In the face of these results, the question may well be raised whether the primary emphasis now laid on Latin in the college-preparatory curriculum is not misplaced and whether greater stress on English might not produce more satisfactory results.

Next below the ancient languages but showing only slightly lower correlations are mathematics, the social sciences, and modern

foreign languages in the order named. In view of the widespread popular belief in a special "mathematical faculty," a much higher correlation between high-school marks and college marks might have been expected in the case of mathematics. The assumption that a student who does well in mathematics in high school will do well in mathematics in college is almost universal. Moreover, it is generally believed that mathematics, being an old subject, is usually well taught in both high school and college. Whether this belief is unfounded and some adjustment of teaching methods in high school and college is needed, or whether the kind of skill required for college mathematics is different from that required for high-school mathematics, this investigation offers no data for determining; but, at any rate, the study shows clearly that, so far as the group under investigation is concerned, success in mathematics in high school indicates only a fair probability of success in mathematics in college.

The low correlation between success in the social sciences in high school and success in the same subjects in college may possibly be explained in part by maladjustment of the teaching methods in the two institutions and in part by the fact that the teaching of the social sciences in college is usually postponed to the later years of the course and the correlation, therefore, is affected by the elimination of students in these later years.

The low correlation in the case of the modern foreign languages is very probably due to differences in method and in quality of teaching. In college, foreign languages are very often taught by foreign-born instructors; while in high school the contact with a foreign language is but second hand, through a native-born teacher, whose command of the language for direct teaching is limited and who has little background for fundamental understanding of the literature he is attempting to teach.

The most striking fact shown by the investigation, however, is the extraordinarily low correlation—in fact, the almost complete lack of correlation—between success in the exact sciences in high school and success in this group of subjects in college. It will be noted that the correlation in the case of the exact sciences is less than one-third of that in the case of the general averages and that in the case of English and less than one-half of that in the case of any of the other subjects. This investigation covers, of course, a very limited field,

but, if the results are at all typical of other groups of students and other institutions, it raises some very important educational questions. Do the results mean that science cannot be successfully taught in the high school as a college-preparatory subject and should therefore be eliminated from the college-preparatory curriculum; or do they mean that the science content of the college-preparatory curriculum is insufficient and should be considerably increased; or do they indicate merely bad adjustment of teaching methods in high school and college, which might be remedied by better co-operation between the two institutions?

These are questions which this investigation can raise but which it offers no means of answering. As a science teacher, however, the writer believes that the science content of the high-school curriculum is insufficient and could with profit be considerably increased. This opinion receives support from the investigation by Weglein, who found that science is the subject that carries over best from one year to another in the high school. One solution might be found in the teaching of general science early in the high-school curriculum or in the junior high school and in the introduction into the later years of the high school of courses in biology, botany, physics, and chemistry more advanced than those now offered. It is possible also that some adjustment might be made by the college by means of which success in high-school science might give more assurance of success in the same subject in college.

In conclusion, it may be pointed out that, while the present investigation is of necessity extremely limited in scope, it may possibly point the way toward the solution of one of the very pressing educational problems of the present day, namely, the problem of effecting a better adjustment between college-preparatory courses and college courses. If it were possible, by means of exhaustive studies in the field which this investigation has barely touched, to get clear indications of the amount and character of the subjects that should be included in the college-preparatory curriculum, and of the kinds of tests that should be applied to determine the students' actual power of performance, in order to insure success in the same subjects in college, the gap between the high school and the college, at present wasteful of both human and financial resources, might be at least greatly reduced, if not entirely closed.

THE ADMINISTRATION OF THE BUDGET IN SECONDARY SCHOOLS[1]

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The present tendency in educational administration is to allow the principal of a secondary school a great deal of autonomy in making the annual budget for his school. He is generally required to justify certain items when the budget is made and to regulate

TABLE I

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP IN WHICH THE PRINCIPALS HAVE BUDGETS TO ADMINISTER

Enrolment Group	Number	Per Cent
1 (4–100)	6	66.7
2 (101–200)	17	58.6
3 (201–300)	38	69.1
4 (301–500)	53	70.7
5 (501–700)	53	73.6
6 (701–1,000)	55	63.2
7 (1,001–1,500)	68	71.6
8 (1,501–2,000)	42	73.7
9 (2,001–6,500)	32	74.4
Total	364	69.7

his requisitions in accordance with the budget adopted. The responsibility thus imposed on the principal requires the establishment of definite office practices which will enable the principal to know the needs of his school and to deal with the various requests for expenditures in an efficient manner. Without system, the administration of the budget is likely to make excessive demands on the time and attention of the principal.

The data presented in Table I show that 69.7 per cent of the

[1] This article is the eighth of a series of articles dealing with certain aspects of secondary-school administration. The first seven articles were published in the issues of the *School Review* for October, November, and December, 1928, and January, February, March, and September, 1929.

principals in 522 representative secondary schools have budgets to administer. The practice is fairly uniform in the schools in the different enrolment groups, the range in percentages being only 15.8. Principals of secondary schools, therefore, irrespective of the size of their schools, should master budget procedures and should establish efficient budget practices.

The importance of efficient budget administration on the part of the principal is shown in Table II. In 59.6 per cent of the cases the board of education disposes of requisitions in accordance with

TABLE II

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP IN WHICH THE REQUISITIONS OF THE PRINCIPALS ARE DISPOSED OF IN ACCORDANCE WITH BUDGETARY PROVISIONS

Enrolment Group	Number	Per Cent
1 (4–100)	2	22.2
2 (101–200)	13	44.8
3 (201–300)	22	40.0
4 (301–500)	51	68.0
5 (501–700)	43	59.7
6 (701–1,000)	49	56.3
7 (1,001–1,500)	61	64.2
8 (1,501–2,000)	40	70.2
9 (2,001–6,500)	30	69.8
Total	311	59.6

budgetary provisions. Thus, a principal must understand the budget and be able to classify and check his requisitions in accordance with the provisions of the budget. One hundred and forty-one, or 27.0 per cent, of the 522 boards of education regard the items of the budget as fixed and not subject to transfer. This fact should impress on principals the necessity of the most careful practices in budget administration. Two hundred and eighty-six, or 54.8 per cent, of the boards of education permit transfer of funds from one item to another in case of need. While 342, or 65.5 per cent, of the budgets include emergency items which permit purchases not provided for, the principal cannot justify requisitions on the emergency fund unless the needs were clearly impossible of anticipation at the time the budget was made. Forty-nine of the 522 boards of education do not provide emergency items in their budgets.

Evidences of the efficiency of budget administration are presented in Tables III and IV, which show the frequency of the different practices of principals with respect to requests for requisitions

TABLE III

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP IN WHICH THE PRINCIPALS RECEIVE BUDGET REQUESTS AT ANY TIME AND AT STATED PERIODS

ENROLMENT GROUP	AT ANY TIME		AT STATED PERIODS	
	Number	Per Cent	Number	Per Cent
1 (4–100)	7	77.8	2	22.2
2 (101–200)	21	72.4	8	27.6
3 (201–300)	39	70.9	15	27.3
4 (301–500)	46	61.3	32	42.7
5 (501–700)	44	61.1	33	45.8
6 (701–1,000)	43	49.4	50	57.5
7 (1,001–1,500)	43	45.3	57	60.0
8 (1,501–2,000)	22	38.6	44	77.2
9 (2,001–6,500)	17	39.5	31	72.1
Total	282	54.0	272	52.1

TABLE IV

NUMBER OF SCHOOLS IN EACH ENROLMENT GROUP IN WHICH REQUESTS FOR REQUISITIONS ARE MADE ON PRINTED FORMS, IN WRITING, AND ORALLY

Enrolment Group	Total Number of Schools in Group	On Printed Forms	In Writing	Orally
1 (4–100)	9	1	6	3
2 (101–200)	29	10	21	9
3 (201–300)	55	24	32	14
4 (301–500)	75	37	58	27
5 (501–700)	72	41	54	15
6 (701–1,000)	87	60	72	13
7 (1,001–1,500)	95	74	73	5
8 (1,501–2,000)	57	44	46	2
9 (2,001–6,500)	43	33	34	2
Total	522	324	396	90

on the budget. Table III shows that 54.0 per cent of the 522 principals receive requests for the issuance of requisitions at any time. The practice may be justified by the principals of the small schools in Groups 1–3 (4–300) on the basis of the small number of requests for requisitions, but in the middle-sized schools in Groups 4–6 (301–

1,000) and in the large schools in Groups 7–9 (1,001–6,500) the practice is an indication of unsystematic administration. The gradual decrease in the practice from the small schools to the large schools indicates a tendency on the part of the principals of the larger schools to systematize requisition procedures. However, the fact that approximately 60 per cent of the principals of the middle-sized schools and 40 per cent of the principals of the large schools permit requests for requisitions to be presented at any time is evidence of much unsystematic administration of budget practices.

Fifty-two and one-tenth per cent of the 522 principals have undertaken to regulate the practices of their schools with regard to requisitions by specifying a definite time when requests may be made. Obviously, some of the principals who have established stated periods for the presentation of requests also receive requests at any time, since the data show that the two practices overlap to a slight extent. Even if some principals follow both practices, the fact that approximately one-half of the principals have attempted to regulate the procedure of presenting requests for requisitions indicates a commendable tendency in budget administration. The data in Table III reveal a tendency which is to be expected, namely, that there is a gradual increase from the small schools to the large schools in the practice of fixing a definite time for requests for requisitions. Of the principals of the small schools in Groups 1–3 (4–300), only 26.9 per cent observe the practice; whereas 49.1 per cent of the principals in the middle-sized schools in Groups 4–6 (301–1,000) and 67.7 per cent of the principals in the large schools in Groups 7–9 (1,001–6,500) set a fixed time for the consideration of requests.

The requests for requisitions are received in one or more of the following ways: on a printed form, in writing, or orally. The data presented in Table IV show considerable overlapping of practices in the schools in the different groups. Evidently it is possible, when principals require requests for requisitions to be presented on printed forms or in writing, to systematize their office practice whether requests are received at stated intervals or not merely by permitting the requests to accumulate until consideration of them is thought necessary. However, if an oral request is received, the

principal must accept a responsibility which in reality should belong to the person who makes the request. The principal is compelled to tax his memory with the oral request or to perform clerical work as a means of insuring prompt and efficient handling of the request.

The data in Table V show that 59.4 per cent of the 522 principals have the requisitions drawn by clerks after they have received and approved the requests. The majority of the principals evidently regard certain aspects of budget administration as clerical in character. The large schools in Groups 7–9 (1,001–6,500) employ routine methods in the preparation of requisitions more commonly than do the middle-sized schools in Groups 4–6 (301–1,000), and the middle-sized schools employ such methods more commonly than do the small schools in Groups 1–3 (4–300). The tendency in the schools in the various enrolment groups is to utilize clerical service in the preparation of requisitions in proportion to the amount of clerical service available. The range is from 31.0 per cent in the schools in Group 2 (101–200) to 86.0 per cent in the schools in Group 9 (2,001–6,500).

TABLE V

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP IN WHICH THE PRINCIPALS HAVE REQUISITIONS DRAWN BY CLERKS

Enrolment Group	Number	Per Cent
1 (4–100)	3	33.3
2 (101–200)	9	31.0
3 (201–300)	19	34.5
4 (301–500)	39	52.0
5 (501–700)	41	56.9
6 (701–1,000)	53	60.9
7 (1,001–1,500)	63	66.3
8 (1,501–2,000)	46	80.7
9 (2,001–6,500)	37	86.0
Total	310	59.4

Some principals have attempted to simplify the administration of the budget by allowing each department a separate budget. The extent to which this practice is followed in the schools in the different enrolment groups is shown in Table VI. The small schools in Groups 1–3 (4–300) usually do not have department heads and

therefore do not adopt the practice of apportioning the budget among the several departments. Fourteen per cent of the small schools in Groups 1–3 (4–300), 20.1 per cent of the middle-sized schools in Groups 4–6 (301–1,000), and 39.0 per cent of the large schools in Groups 7–9 (1,001–6,500) follow the practice. The percentage for the entire group of 522 schools is 26.1.

Some principals follow the practice of making the department heads responsible for the requests for requisitions made by the teachers in their departments. The delegation of the responsibility

TABLE VI

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP WHICH ALLOW EACH DEPARTMENT A SEPARATE BUDGET

Enrolment Group	Number	Per Cent
1 (4–100)	0	0.0
2 (101–200)	3	10.3
3 (201–300)	10	18.2
4 (301–500)	20	26.7
5 (501–700)	12	16.7
6 (701–1,000)	15	17.2
7 (1,001–1,500)	32	33.7
8 (1,501–2,000)	21	36.8
9 (2,001–6,500)	23	53.5
Total	136	26.1

to the department head relieves the principal of a considerable load in budget administration. By requiring the department head to draw the requisition, the principal reduces his responsibility to the simple act of formal approval after checking.

The data in Table VII show that 41.6 per cent of the 522 principals follow the practice of delegating responsibility for departmental requests for requisitions to the department heads as compared with 26.1 per cent of the principals who maintain separate departmental budgets (Table VI). The range in the percentages of schools which have adopted the practice (68.8) is greater than is the range in the percentages of schools which maintain separate departmental budgets (53.5). The small schools in Groups 1–3 (4–300) are again lowest, with 23.7 per cent, while the middle-sized schools in Groups 4–6 (301–1,000) are next, with 31.2 per cent; the

large schools in Groups 7–9 (1,001–6,500) are highest, with 62.6 per cent. The data indicate that the tendency on the part of principals to adopt practices which involve routine administration of the budget increases as the schools increase in size.

TABLE VII

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP IN WHICH THE DEPARTMENT HEADS REQUISITION SUPPLIES AND EQUIPMENT FOR ALL THE TEACHERS IN THEIR DEPARTMENTS

Enrolment Group	Number	Per Cent
1 (4–100)	2	22.2
2 (101–200)	5	17.2
3 (201–300)	15	27.3
4 (301–500)	22	29.3
5 (501–700)	21	29.2
6 (701–1,000)	30	34.5
7 (1,001–1,500)	44	46.3
8 (1,501–2,000)	41	71.9
9 (2,001–6,500)	37	86.0
Total	217	41.6

TABLE VIII

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP WHICH HAVE STANDARD LISTS OF SUPPLIES

Enrolment Group	Number	Per Cent
1 (4–100)	4	44.4
2 (101–200)	11	37.9
3 (201–300)	22	40.0
4 (301–500)	41	54.7
5 (501–700)	38	52.8
6 (701–1,000)	47	54.0
7 (1,001–1,500)	55	57.9
8 (1,501–2,000)	34	59.6
9 (2,001–6,500)	31	72.1
Total	283	54.2

A further effort to systematize budget administration is found in the case of 54.2 per cent of the schools (Table VIII) in the practice of maintaining a standard list of supplies for which requests may be made in a routine way. This practice affords considerable relief for the principal since a request for an item on the standard

list merely requires checking by the department head to determine the reasonableness of the amount and by the principal to ascertain the status of the item in the budget on which the requisition must be drawn.

The percentages of schools in the various enrolment groups which follow the practice of maintaining standard lists of supplies range from 37.9 to 72.1. The small schools in Groups 1–3 (4–300) are 14.0 points lower than the middle-sized schools in Groups 4–6 (301–1,000), and the large schools in Group 7–9 (1,001–6,500) are 7.7 points higher than the middle-sized schools. The data again show that the tendency on the part of principals to adopt practices designed to systematize budget administration increases as the schools increase in size.

From the discussion of the administration of the budget after adoption, we may turn to a consideration of the methods of budget-making. Obviously, the procedure of the principal in making a satisfactory budget must be something more than a hasty estimate of expenses for the ensuing year. The budget must contain carefully computed estimates of the costs of actual and anticipated needs. Such needs can be determined only in the light of the records for previous years and of approved policies for the school. The costs must be computed on the basis of prices which obtain at the time the budget is prepared.

The principal cannot anticipate all the needs of the school without the assistance of the teaching staff. He should therefore have before him when the budget is being prepared the requests of the teachers for any items which do not come within the standard provisions of the budget. In no other way can the principal anticipate the needs of the school and make reliable estimates of the amount of money required to meet these needs.

Table IX reveals the extent to which the requests of teachers are utilized by principals in the preparation of school budgets.

The principal of a small school has a far simpler task in making a budget than has the principal of a large school. The principal of the small school comes into daily contact with the school as a whole and is therefore keenly aware of its needs. The principal of the large school, on the contrary, knows the details of the school's needs

only as they are brought to his attention by the members of the teaching staff.

Budget-making and budget administration are likely to demand a relatively large part of the time and attention of the principal

TABLE IX

NUMBER AND PERCENTAGE OF SCHOOLS IN EACH ENROLMENT GROUP IN WHICH THE BUDGET IS PREPARED ON THE BASIS OF THE REQUESTS OF THE TEACHERS FOR EQUIPMENT AND SUPPLIES

Enrolment Group	Number	Per Cent
1 (4–100)	2	22.2
2 (101–200)	10	34.5
3 (201–300)	22	40.0
4 (301–500)	44	58.7
5 (501–700)	40	55.6
6 (701–1,000)	52	59.8
7 (1,001–1,500)	57	60.0
8 (1,501–2,000)	35	61.4
9 (2,001–6,500)	30	69.8
Total	292	55.9

unless a conscious effort is made to develop procedures which will result in systematic budgetary practices. The data presented in this article indicate the trends of budgetary practices and should enable principals to increase their efficiency as school administrators. The fact that many principals have not developed efficient budgetary practices emphasizes the necessity of a systematic study of budget procedures and the adoption of practices of established merit.

AN ANALYSIS OF THE HIGH-SCHOOL RECORDS OF JUNIOR-COLLEGE STUDENTS

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One of the significant developments in our educational program during recent years is the rise of the junior college. In many cities the junior college is a well-established part of the public-school system. Establishing a college in a city naturally increases the college attendance of high-school graduates.

Three questions are often raised by those interested in the junior-college movement: (1) What percentage of the high-school graduates enrol in the junior college? (2) Does the junior college, because of its location and accessibility, tend to attract students who have displayed only average ability in their high-school work? (3) Do the better high-school students tend to go to the older and better-established colleges?

The study here reported attempted to answer these questions in relation to the junior college at Fort Scott, Kansas. No general conclusions can be drawn from one situation, but the study makes a definite contribution toward answering these questions. The Fort Scott Junior College has been in operation for ten years, but the data here reported were obtained from the records of the high school and junior college for the years from 1922 to 1929. The introduction of a new system of filing records in 1922 made it expedient to use the records for these years only. The records studied are, however, representative of the records for the entire ten-year period.

Four hundred and eighty-five students enrolled in the junior college from 1922 to 1929. One hundred and forty-seven of these students have graduated; 224 left the junior college before graduation; and 114 were enrolled during the year 1928–29. Of the total number of students enrolled in the junior college, 324, or 67 per cent, were graduates of the Fort Scott High School. Eight hundred and thirty-three students graduated from the Fort Scott High School from 1922

to 1928, and, as 324 of these students entered the junior college, it is evident that approximately 40 per cent of the graduates of the Fort Scott High School enter the local junior college. An additional 12 per cent of the high-school graduates entered other colleges. Thus, 52 per cent of the graduates of the Fort Scott High School during the seven-year period entered college. This is a relatively large percentage as compared with the percentage of high-school graduates entering college throughout the United States, although there seems to be an increasingly larger percentage of the high-school graduates entering college each year. It is the conviction of those directing the work of the junior college that a large percentage of the students who are enrolled in the junior college would not have the opportunity to attend college if the junior college were not accessible to them at a low cost.

Of the students who graduated from the Fort Scott High School from 1922 to 1926 and thus might have finished the work of the junior college had they continued their college work directly, only 20 per cent actually finished the two years of work. The records also show that, of the graduates of the high school who entered the junior college between 1922 and 1926, 125, or 53 per cent, left school without completing the two years of work. These figures indicate that, while the junior college is a large factor in increasing the number of students who enter college, many of the students who enter leave without completing two years of work.

The question concerning the type of students attracted to the junior college is answered only in relation to the teachers' marks received by the students in the high school. Teachers' marks are recognized as a reliable, but not an infallible, index. Marks in the Fort Scott High School are recorded by the letters A, B, C, D, and F, which assume a somewhat normal distribution curve. In the computation of grade points, A is evaluated at three points; B, two points; C, one point; D, no points; and F, minus one point. The records of the boys and girls were tabulated separately as there is a significant difference between them. The data are presented in Table I.

Table I shows that the average number of grade points of the 342 boys who graduated from the high school is 44.5; the average number of grade points of the 491 girls is 55.4. Of the 342 boys who grad-

uated from the high school, 170, or 50 per cent, entered the local junior college. Of the 491 girls who graduated from the high school, only 154, or 31 per cent, entered the junior college. The average number of grade points earned in high school by the 170 boys who entered the junior college is 50.0 as compared with 44.5 for the 342 boys who graduated from the high school. The average number of grade points earned in high school by the 154 girls who entered the junior college is 66.0 as compared with 55.4 for the 491 girls who graduated from the high school.

TABLE I

AVERAGE NUMBER OF GRADE POINTS EARNED BY BOYS AND GIRLS IN THE FORT SCOTT HIGH SCHOOL

	Boys		Girls	
	Number	Average Number of Grade Points	Number	Average Number of Grade Points
High-school graduates	342	44.5	491	55.4
High-school graduates entering junior college	170	50.0	154	66.0
High-school graduates entering junior college but leaving before graduation	78	45.3	47	61.0
High-school graduates graduating from junior college	43	60.0	70	69.0
High-school graduates entering institutions other than junior college	59	46.0	48	62.0

The data seem to indicate that junior-college students are slightly superior to high-school graduates in the number of grade points they earn during their high-school course and that at least some of the weaker students do not enter the junior college. The record of the boys who entered the junior college and left before graduation is about the same as the record of the boys who graduated from the high school. The record of the girls who entered the junior college and left before graduation is slightly superior to the record of the girls who graduated from the high school.

In order to answer the third question, the records of the students who entered the junior college were compared with the records of the students who entered other colleges. The comparison shows that the junior-college students have slightly better records in terms of their

high-school marks. The differences are not significant enough, however, to form the basis of any conclusions.

The evidence presented indicates that the junior college is attracting students slightly superior to the average high-school graduate and that, for the most part, the better high-school students do not go to the better-established colleges. The records of the high-school students who graduated from the junior college show that they were superior students in the high school. The average number of grade points earned in the high school by the students who graduated from the junior college is about 15 greater than the average number of grade points earned by the students who graduated from the high school.

SOME REASONS WHY HIGH-SCHOOL PUPILS CHOOSE CERTAIN SUBJECTS

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In the effort to recognize the individuality of pupils in guidance activities of the high school, it is of importance to know the extent to which the pupils' own reactions are worthy of the confidence placed in them. When given the opportunity to elect courses, do high-school pupils choose subjects with any degree of discrimination and judgment? Do their reasons for choosing certain subjects indicate the influence of dependable factors? These and other questions demand the consideration of all school officers.

Thorndike[1] determined the interest of high-school pupils in algebra and other subjects. In a mental survey of high-school Seniors in Indiana, Book[2] asked pupils to name the subjects in the entire high-school course which they preferred most and those which they preferred least. The results were compared with intelligence scores, fathers' occupations, and college intention. In a study of 850 high-school pupils in Arkansas, Powers[3] undertook to determine the extent to which intelligence is a factor in the election of subjects. The conclusion reached in this study was that pupils of high intelligence appear to be attracted to the more abstract subjects in the curriculum, while pupils of relatively low intelligence choose subjects involving manual dexterity. More recently, Colvin and MacPhail[4] studied the preferences of high-school Seniors in Massachusetts. The

[1] Edward L. Thorndike and Others, *The Psychology of Algebra*, chap. xv. New York: Macmillan Co., 1923.

[2] William F. Book, *The Intelligence of High School Seniors*, chap. ix. New York: Macmillan Co., 1922.

[3] S. R. Powers, "Intelligence as a Factor in the Election of High-School Subjects," *School Review*, XXX (June, 1922), 452–55.

[4] Stephen S. Colvin and Andrew H. MacPhail, *Intelligence of Seniors in the High Schools of Massachusetts*. Bureau of Education Bulletin No. 9, 1924. Pp. 40.

method employed was similar to that used by Book. The question was asked: "What two subjects do you like best in high school?" Commercial subjects were most frequently named and were mentioned by more than one-fourth of the pupils replying. English and literature ranked next, being mentioned by nearly one-fifth of all the pupils. No one of the other high-school subjects was mentioned by more than 5 per cent of the pupils.

Adams has made two contributions which deal indirectly with the same problem. In one study,[1] based on a high-school survey in Indiana, he attempted to determine (1) the subjects which pupils would like to take but do not have the opportunity to take and (2) the subjects pupils would have left out of the curriculum. Nearly one-third of the pupils wanted to take typewriting; 19 per cent, bookkeeping; and 13 per cent, shorthand. In addition, 11 per cent wanted to take manual training. The percentage of pupils who wanted subjects left out of the curriculum did not prove so great except in the case of those who chanced to be taking particular subjects at the time the investigation was made. Eighty per cent of the boys and 33 per cent of the girls who were studying Latin expressed a desire to have all beginning Latin eliminated from the curriculum. Fifty-one per cent of the boys and 3 per cent of the girls who were studying French thought that French should be left out of the curriculum. Thirteen per cent of the boys and 22 per cent of the girls who were studying geometry thought that this subject should be left out of the curriculum. In another investigation,[2] which dealt with both non-vocational and vocational schools, Adams attempted to determine the causes of failures in the various high-school subjects. The results showed that the most frequent cause of failure was "failure to do back work." This reason was the cause of 40 per cent of the failures in algebra in the non-vocational schools and 44 per cent of the failures in this subject in the vocational schools. Other causes of failure included "did not like teacher," "subject too difficult," and "failure to see value of subject."

[1] Jesse E. Adams, "The High School Pupil and His Curriculum," *Educational Administration and Supervision*, XII (January, 1926), 1–13.

[2] Jesse E. Adams, "Reactions of High-School Pupils to High-School Subjects," *School Review*, XXXV (May and June, 1927), 354–62, 417–27.

The studies which have been made have attempted, on the whole, to determine the subjects high-school pupils like best or least, not the subjects they actually choose and the reasons for their choices. The study here reported was undertaken in the belief that it is desirable to know not only the subjects high-school pupils actually choose when they are given the opportunity to elect courses but the reasons for their choices and some of the factors affecting their choices.

The results presented represent a part of a high-school survey involving approximately 1,500 high-school pupils in the Sophomore, Junior, and Senior years in three large high-school systems in Colorado. The average number of pupils enrolled in the schools chosen for the survey is almost one thousand. In the selection of the schools, every caution was observed to see that the schools chosen offer a wide range of elective subjects and do not require the pupils to take a large number of prescribed subjects. The only two subjects commonly required by the schools investigated are English and history, and these subjects are not required in some instances in every year of the high school. Scores on mental tests, school marks, and other data were obtained for the pupils included in the study. In addition, each pupil was asked to fill out a questionnaire, which is in part as follows:

Please list here the elective subjects that you took last semester (those that you took because you wanted to take them):

1. _____ 2. _____

3. _____ 4. _____

Below is a list of suggested reasons for taking a subject. Look over the list carefully and select the one or ones that fit your case. Then place the letter or letters that correspond to the reasons after each subject listed as an elective directly above here (for example, Plane geometry A).

A. As an aid in making a living (for example, a teacher of the subject).
B. Because of advice from principal, teacher, or superintendent.
C. Because of advice from parents, friends, or schoolmates.
D. Because I believe I have the ability to make a good mark in the subject.
E. Because of the personality of the teacher.
F. Because of suggestions I have received from my reading.
G. Because of the reputation or standing of the subject.

Other reasons.

Do you expect to graduate from high school?

Do you expect to go to college?
Do you expect to graduate?
Is your father an elementary-school graduate?
Is he a high-school graduate?
Is he a college graduate?
Is your mother an elementary-school graduate?
Is she a high-school graduate?
Is she a college graduate?
What type of profession or vocation do you intend to enter?

TABLE I

DISTRIBUTION OF REASONS GIVEN BY HIGH-SCHOOL PUPILS FOR CHOOSING CERTAIN SUBJECTS

Reason	Number	Per Cent
A. As an aid in making a living (for example, a teacher of the subject)	728	27.48
C. Because of advice from parents, friends, or schoolmates	610	23.03
D. Because I believe I have the ability to make a good mark in the subject	371	14.01
B. Because of advice from principal, teacher, or superintendent	370	13.97
G. Because of the reputation or standing of the subject	342	12.91
F. Because of suggestions I have received from my reading	106	4.00
E. Because of the personality of the teacher	98	3.70
H. In order to help me prepare for college	14	0.53
I. Because I like it	8	0.30
J. No other subject	1	0.04
K. As an aid in studying some other subject	1	0.04
Total	2,649	100.01

Table I shows the frequency with which the various reasons for selecting certain subjects were listed by the high-school pupils considered. In a number of instances, the pupils gave more than one reason for choosing a subject. For example, in the case of geometry, a pupil may have given three different reasons for choosing this subject. In making the distribution, the number of times the reasons occurred was considered irrespective of the number of pupils or the number of subjects involved.

As might be expected, the economic motive has precedence over the other reasons given. This reason is probably the most impelling objective of the high school and should stand foremost in the minds

of both administrators and pupils as a criterion in the evaluation of subjects in the high-school curriculum. The relative importance of the social factor as expressed by Reason C (because of advice from parents, friends, or schoolmates) emphasizes the great influence the group of which one is a member may have on one's choices. It is interesting to note in this connection that Reason C has considerably more importance than has Reason B (because of advice from principal, teacher, or superintendent), which constitutes only 14 per cent of the reasons as compared with 23 per cent in the case of Reason C. Reason D (because I believe I have the ability to make a good mark in the subject) is responsible for 14 per cent of the frequencies noted, indicating that the pupil's insight into his own ability and his concern over passing or failing are an important consideration. The other reasons have varying degrees of importance. A few pupils gave reasons not included in the list. These have been tabulated under the headings H, I, J, and K.

Of greater importance and interest is the relation which may exist between the subjects high-school pupils choose and their reasons for choosing these subjects. Do pupils show any discrimination and judgment in assigning reasons for their choices? In other words, what types of subjects are associated with certain types of reasons? Is the social or group influence greater in the case of one group of subjects than is the economic influence or some other influence? In our consideration of subjects in the high-school curriculum we have come to associate certain values with certain subjects or groups of subjects.

Table II shows the relation between the pupils' choice of subject matter and the reasons given for their choice. This table should be read as follows: Of 631 reasons given as A, 3 per cent were assigned to the biological and chemical sciences, 39 per cent to commercial subjects, 5 per cent to English, etc. The table also presents data for certain combinations of reasons, such as A and B, A and C, and A and D.

Reason A is most frequently associated with the commercial subjects; Reason B, with Latin; Reason C, with the commercial subjects and Latin; Reason D, with trades and industries; Reason E, with social science; Reason F, with the biological and chemical sciences; and Reason G, with Latin. The reasons showing the highest per-

TABLE II

RELATION BETWEEN SUBJECTS CHOSEN BY PUPILS AND THEIR REASONS FOR CHOOSING THESE SUBJECTS

SUBJECT	REASONS													
	A		B		C		D		E		F		G	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Biological and chemical sciences	22	3	36	12	37	7	25	8	5	5	13	25	22	8
Commercial subjects	249	39	27	9	87	17	43	14	16	16	3	6	21	7
English	34	5	7	2	17	3	12	4	6	6	6	11	11	4
Fine arts	21	3	6	2	21	4	32	11	5	5	2	4	12	4
General review	.....	.....	5	2	4	1	2	1	.....	.....	.....	.....	.....	.....
General science	3	0.5	4	1	13	2	10	3	1	1	4	8	4	1
Home economics	15	2	5	2	21	4	16	5	1	1	.....	.....	5	2
Latin	30	5	81	26	91	17	15	5	12	12	2	4	57	19
Mathematics	66	10	56	18	82	16	29	10	3	3	1	2	53	18
Modern language	49	8	22	7	59	11	22	7	14	14	6	11	51	17
Physical education	7	1	2	1	6	1	10	3	.....	.....	4	8	2	1
Physics	9	1	10	3	6	1	3	1	6	6	.....	.....	25	9
Psychology	1	0.2	.....	.....	.....	.....	1	0.3	.....	.....	.....	.....	1	0.3
Social science	24	4	23	7	31	6	25	8	21	22	9	17	17	6
Trades and industries	101	16	24	8	51	10	52	18	7	7	3	6	12	4
Total	631	97.7	308	100	526	100	297	98.3	97	98	53	102	293	100.3

TABLE II—*Continued*

Subject	Reasons													
	H		I		A and B		A and C		A and D		B and C		C and D	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Biological and chemical sciences	1	8	1	9	4	36	2	6	.....	.....	1	5	3	16
Commercial subjects	.....	.....	1	9	.....	.....	13	38	3	18	.....	.....	2	11
English	.....	.....	.....	.....	.....	.....	.....	.....	1	6	.....	.....	1	5
Fine arts	.....	.....	.....	.....	1	9	.....	.....	1	6	.....	.....	.....	.....
General review	.....	.....	.....	.....	.....	.....	.....	.....	1	6	3	14	.....	.....
General science	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	5
Home economics	.....	.....	3	27	.....	.....	3	9	.....	.....	.....	.....	.....	.....
Latin	6	46	1	9	4	36	6	18	.....	.....	11	52	2	11
Mathematics	6	46	.....	.....	.....	.....	2	6	4	24	6	29	1	5
Modern language	.....	.....	1	9	1	9	2	6	3	18	.....	.....	2	11
Physical education	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Physics	.....	.....	.....	.....	.....	.....	.....	.....	1	6	.....	.....	2	11
Psychology	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Social science	.....	.....	.....	.....	1	9	2	6	3	18	.....	.....	3	16
Trades and industries	.....	.....	4	36	.....	.....	4	12	.....	.....	.....	.....	2	11
Total	13	100	11	99	11	99	34	101	17	102	21	100	19	102

centages for the biological and chemical sciences are B and F; for the commercial subjects, A; and for Latin and mathematics, B, C, and G. No distinct tendency is noted for modern language. The reasons showing the highest percentages for trades and industries are A and D, the economic motive having comparatively less importance in the case of these subjects than in the case of the commercial subjects. The facts presented indicate that, although pupils do not show any well-formed plan in assigning reasons for selecting certain subjects, they do at least show discrimination in assigning reasons for choosing some subjects.

In the reorganization of the high-school curriculum in recent years, much attention has been given to the integration of courses of study as well as to the offering of a wide range of electives. Superintendents and principals have attempted to guide pupils into fields of study which take into account not only their ability and interest but their educational expectancy as well. Does the pupil who plans to finish high school and continue his educational training in college or university choose subjects different from the subjects chosen by the pupil who expects to complete his educational training at the end of the high-school course? A partial answer to this question is given in Table III, which shows the relation between the subjects chosen by the pupils and their expectations with regard to further educational training. Pupils who plan to continue their educational training beyond the high school tend to take greater amounts of Latin and mathematics, while pupils who expect to complete their educational training at the end of the high-school course choose commercial subjects and trades and industries. It may be concluded, then, that educational intention is to some degree a factor which influences the election of subjects.

Studies made in the field of genetic psychology in recent years have placed emphasis on the child's early experiences and home environment. The age-old problem of separating the relative influences of heredity and environment has made the results of educational investigations difficult to interpret. What influence does the education of the father have on the types of choices made by pupils and the reasons for their making certain choices? In general, it is recognized that the nature and the amount of educational training which a father has, influence the guidance which he gives to his children.

TABLE III

RELATION BETWEEN SUBJECTS CHOSEN BY PUPILS AND EDUCATIONAL EXPECTANCY

SUBJECT	EXPECT TO GRADUATE FROM HIGH SCHOOL						EXPECT TO GO TO COLLEGE						EXPECT TO GRADUATE FROM COLLEGE					
	Yes		No		Undecided		Yes		No		Undecided		Yes		No		Undecided	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Biological and chemical sciences	235	8	3	5	3	11	115	7	84	7	36	10	90	7	7	11	18	13
Commercial subjects	536	18	22	37	8	30	142	9	333	30	61	17	115	9	10	16	17	12
English	177	6	1	2	2	7	98	6	59	5	20	6	82	6	5	8	12	8
Fine arts	127	4	2	3	.....	.....	75	5	45	4	7	2	65	5	3	5	6	4
General review	12	0.4	2	3	.....	.....	3	0.2	8	1	1	0.3	3	0.2	.....	.....	.....	.....
General science	59	2	.....	.....	4	15	19	1	32	3	8	2	17	1	.....	.....	1	1
Home economics	88	3	3	5	3	11	36	2	47	4	5	1	31	2	3	5	2	1
Latin	367	12	3	5	1	4	279	18	54	5	34	10	257	19	3	5	19	13
Mathematics	420	14	2	3	1	4	270	17	103	9	47	13	240	18	10	16	20	14
Modern language	281	9	6	10	2	7	160	10	85	8	36	10	139	10	7	11	13	9
Physical education	67	2	2	3	.....	.....	37	2	23	2	7	2	33	2	1	2	3	2
Physics	70	2	1	2	.....	.....	57	4	10	1	3	1	52	4	.....	.....	4	3
Psychology	3	0.1	.....	.....	.....	.....	2	0.1	1	0.1	.....	.....	2	0.1	.....	.....	.....	.....
Social science	241	8	2	3	2	7	130	8	82	7	29	8	114	8	4	6	13	9
Trades and industries	352	12	10	17	1	4	136	9	159	14	57	16	110	8	11	17	16	11
Total	3,035	100.5	59	98	27	100	1,559	98.3	1,125	100.1	351	98.3	1,350	99.3	64	102	144	100

The father may advise his children to take classical subjects if he himself studied these subjects or to go to college if he himself went. On the other hand, the father may advise his children to take subjects altogether different from the subjects that he pursued. This tendency is substantiated by a recent survey of college alumni[1] in which a large majority of the individuals involved expressed the con-

TABLE IV

RELATION BETWEEN SUBJECTS CHOSEN BY PUPILS AND THE EDUCATIONAL PREPARATION OF THEIR FATHERS

SUBJECT	LESS THAN COMPLETE ELEMENTARY-SCHOOL TRAINING		ELEMENTARY-SCHOOL GRADUATES		HIGH-SCHOOL GRADUATES		COLLEGE GRADUATES	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Biological and chemical sciences	61	8	109	8	45	8	25	9
Commercial subjects	189	24	238	18	80	14	24	9
English	61	8	64	5	30	5	18	7
Fine arts	21	3	79	6	25	4	12	4
General review	2	0.3	11	1	1	0.2	1	0.4
General science	21	3	28	2	10	2	4	1
Home economics	19	2	45	3	21	4	5	2
Latin	67	8	161	12	71	13	42	16
Mathematics	80	10	176	13	96	17	49	18
Modern language	73	9	116	9	59	10	24	9
Physical education	20	3	26	2	13	2	6	2
Physics	12	2	26	2	17	3	8	3
Psychology	.....	.....	1	0.1	2	0.4	.....	.....
Social science	70	9	96	7	36	6	27	10
Trades and industries	102	13	162	12	56	10	22	8
Total	798	102.3	1,338	100.1	562	98.6	267	98.4

viction that, if they had the opportunity to repeat their college courses, they would take subjects of an almost entirely different character.

Data with regard to the relation between the educational preparation of the father and the type of choice made by the pupil are presented in Table IV. The striking facts in this table are found in the case of commercial subjects, trades and industries, Latin, and mathematics. High-school pupils whose fathers are only elementary-school graduates take large amounts of commercial and trade and industrial subjects. As the education of the father increases,

[1] An unpublished survey of the University of Colorado.

there is a gradual increase in the amount of mathematics and Latin elected. The reason for this tendency cannot be attributed to heredity or environment alone. The superior intellectual potentiality of a

TABLE V

RELATION BETWEEN REASONS GIVEN BY PUPILS FOR CHOOSING CERTAIN SUBJECTS AND THE EDUCATIONAL PREPARATION OF THEIR FATHERS

REASON	LESS THAN COMPLETE ELEMENTARY-SCHOOL TRAINING		ELEMENTARY-SCHOOL GRADUATES		HIGH-SCHOOL GRADUATES		COLLEGE GRADUATES	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
A. As an aid in making a living (for example, a teacher of the subject)	164	31	258	27	105	24	44	21
B. Because of advice from principal, teacher, or superintendent	57	11	136	14	53	12	36	17
C. Because of advice from parents, friends, or schoolmates	115	21	207	22	101	23	53	25
D. Because I believe I have the ability to make a good mark in the subject	79	15	120	13	72	16	22	10
E. Because of the personality of the teacher	11	2	25	3	16	4	4	2
F. Because of suggestions I have received from my reading	22	4	34	4	14	3	7	3
G. Because of the reputation or standing of the subject	57	11	120	13	47	11	36	17
H. In order to help me prepare for college	1	0.2	6	1	5	1	2	1
I. Because I like it	2	0.4	1	0.1	3	1	.....	.....
Reasons A and B	3	1	3	0.3	1	0.2	1	0.5
Reasons A and C	8	1	17	2	8	2	.....	.....
Reasons A and D	6	1	3	0.3	8	2	2	1
Reasons B and D	3	1	10	1	3	1	6	3
Reasons C and D	8	1	6	1	3	1	1	0.5
Total	536	100.6	946	101.7	439	101.2	214	101.0

child whose father is a college graduate may lead the child to choose mathematics and Latin because of the high intellectual demands made by these subjects.[1] The same type of deduction may be made with regard to children whose fathers have gone no farther in their

[1] S. R. Powers, *op. cit.*, p. 455.

educational training than the elementary or high school and who choose to take commercial subjects and trades and industries because of the lower intellectual demands made by these subjects.

Table V presents facts with regard to the relation between the reasons given by the pupils for choosing certain subjects and the educational preparation of their fathers. In the case of Reason A the percentage decreases with the increase in the preparation of the father. In the case of Reason C the percentage increases with the increase in the preparation of the father, indicating in a rather striking way that parental influence is exercised to a greater degree in the case of well-trained fathers. Another fact worthy of mention is that Reason G shows the largest percentage in the case of the pupils whose fathers are college graduates. It is very likely that what has been said concerning the influence of the father is equally, if not more, true of the influence of the mother.

SUMMARY AND CONCLUSIONS

The most important reasons which high-school pupils give for choosing certain subjects, arranged in the order of frequency, are as follows: (1) as an aid in making a living; (2) because of advice from parents, friends, or schoolmates; (3) because I believe I have the ability to make a good mark in the subject; (4) because of advice from principal, teacher, or superintendent; and (5) because of the reputation or standing of the subject.

The factors which influence the choice of pupils are of greater significance than are the reasons which they give for choosing certain subjects.

The facts indicate that high-school pupils exercise judgment in assigning reasons for their choices. The reasons showing the highest percentages for the biological and chemical sciences are B (advice from principal, teacher, or superintendent) and F (suggestions received from reading); for the commercial subjects, A (as an aid in making a living); and for Latin and mathematics, B (advice from principal, teacher, or superintendent), C (advice from parents, friends, or schoolmates), and G (reputation or standing of the subject).

Plans for college education appear to affect pupils' choice of specific subjects and groups of subjects. Those pupils planning to

continue their educational preparation in college or university choose comparatively large amounts of Latin and mathematics, while those pupils who expect to complete their educational training at the end of the high-school course take relatively large amounts of commercial subjects and trades and industries. No distinct tendencies appear in the case of the other subjects.

The educational preparation of the father seems to be a factor which affects the types of subjects chosen as well as the reasons which pupils give for their choices. The practical-arts subjects are chosen in the greatest amounts by pupils whose fathers are elementary-school or high-school graduates; the abstract subjects, by pupils whose fathers are college graduates. The intellectual endowment of pupils whose fathers are college graduates is unquestionably superior to the intellectual endowment of pupils whose fathers are elementary-school or high-school graduates, and pupils are inclined, as has been shown by Powers, to take subjects which make demands commensurate with their abilities.

The educational preparation of the father appears also to influence to some degree the reasons which pupils give for their choice of subjects. The percentage of pupils reporting Reason A (as an aid in making a living) decreases as the educational preparation of the fathers increases, indicating that both economic and social factors are operating. The highest percentage in the case of Reason C (because of advice from parents, friends, or schoolmates) represents pupils whose fathers are college graduates; the lowest percentage, pupils whose fathers have less than complete elementary-school training. Reason G (because of the reputation or standing of the subject) shows the highest percentage in the case of pupils whose fathers are college graduates.

The study calls attention to the need for a co-operative attitude on the part of school officers toward pupils, who are the center of the educational system. Many factors affecting the guidance program may be determined through a study of the choices of individual pupils and the influences which affect their choices. In addition to the general factors which have been presented, there are other factors, including age, sex, grade, vocational preference, extra-curriculum activities, and intelligence, which must be taken into account before definite conclusions may be drawn.

A STUDY OF THE RELATIVE TEACHING VALUES OF FOUR COMMON PRACTICES IN CORRECTING EXAMINATION PAPERS

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The purpose of the investigation here reported was to determine which of four common practices or methods of correcting new-type examination papers serves best with respect to pupil learning and pupil retention of subject-matter. The four practices or methods investigated are as follows: Under Method 1 the pupils checked the incorrect responses on their own papers as the teacher gave the correct responses. Free discussion was allowed. Under Method 2 the teacher collected the examination papers and checked the incorrect items as wrong but made no corrections. The papers were later returned to the pupils and discussed item by item. Under Method 3 the teacher collected the papers and carefully wrote in all the corrections. The papers were returned to the pupils and discussed item by item. Under Method 4 the teacher collected the papers and carefully wrote in all the corrections, as under Method 3, but, when the papers were returned to the pupils, the discussion was limited to such questions as arose in response to the teacher's direction: "I have carefully corrected all the errors on your papers. Note your errors, and ask any questions you wish to in connection with them." No time limit was set on the discussion, and the pupils were encouraged to ask questions about their errors.

It will be noted that the amounts of class time consumed under Methods 1, 2, and 3 were approximately equal but greatly in excess of the amount consumed under Method 4, since many of the test items were not discussed under this method. Method 1 required none of the teacher's time out of class; Method 2 required considerable of the teacher's time; Methods 3 and 4 required equal amounts several times greater than the amount required under Method 2.

The investigation was carried on during four consecutive school years, 1924–28, inclusive, in the department of science of the University High School, University of Michigan. The first two years constituted a tryout period, because faults of technique which could be discovered and eliminated only through actual trial occurred then, rendering the data from these years worthless. Data are here presented showing the results of the investigation during the last two years. During this period results were obtained from ten classes in science enrolling 286 pupils. The ten classes included two in seventh-grade general science, three in eighth-grade general science, two in ninth-grade biology, two in tenth-grade biology,[1] and one in eleventh-grade chemistry. These classes are referred to as Classes VII-1, VII-2, VIII-1, VIII-2, VIII-3, etc. Owing to the nature of the investigation, data could be secured only once during each year—at the time of the mid-year examination.

The examinations for each class were prepared as follows: A hundred or more test items were prepared of the completion, modified true-false,[2] multiple-response, and modified multiple-response[3] types. From these test items, four test sheets were prepared as nearly identical in form and difficulty as they could be made without actually trying them with pupils. Corresponding items on the four test sheets were of the same types of tests. Thus, Item 1 on each of the four sheets was of the modified true-false reasoning type, requiring the changing of two words; Item 2 on each of the four sheets was of the completion type, requiring the filling of two blanks; and Item 3 was of the modified multiple-response type, requiring the writing of the correct response in the blank. The four sheets were administered as the mid-year examination. The sheets were clipped together so that one-fourth of the pupils began with Sheet 1 and finished with Sheet 4; another fourth began with Sheet 2 and finished with Sheet 1; another fourth began with Sheet 3 and finished with

[1] The writers wish to make grateful acknowledgment of the help of Mrs. Esther Friedrick Vreeland and Mrs. Grace Gelder in securing the data from the biology classes.

[2] Howard Y. McClusky and Francis D. Curtis, "A Modified Form of the True-false Test," *Journal of Educational Research*, XIV (October, 1926), 213–24.

[3] Francis D. Curtis and Gerald G. Woods, "A Study of a Modified Form of the Multiple Response Test," *Journal of Educational Research*, XVIII (October, 1928), 211–19.

Sheet 2; while the last fourth began with Sheet 4 and finished with Sheet 3.

The four test sheets for each class were treated according to the four methods described. The teacher examined Sheet 1, representing Method 1; she noted the errors and recorded them with the name of the pupil on a separate sheet but made no marks of any kind on the sheet. This plan was followed in order that the teacher's marking could be used as a check to determine the degree of accuracy with which the pupils were able to correct their own papers. The teacher merely checked the incorrect items on Sheet 2, but wrote in all the corrections on Sheets 3 and 4.

During the first recitation period after the examination the four sheets were distributed to the pupils in turn. After each set of sheets was treated in the prescribed manner, it was collected before the next set was distributed. Each pupil received his own Sheet 1, on which he checked the errors as the correct responses were read and discussed. Sheets 2, 3, and 4 were returned to their owners for discussion. Sheets 2 and 3 were discussed item by item, but only those items of Sheet 4 were discussed about which the pupils asked questions.

During the next class period the four sheets were administered again without previous warning as a test of immediate recall. Six weeks later the four sheets were administered a third time without previous warning as a test of delayed recall or retention. During the interval care was taken to give no review or drill on the work covered by the examination.

In order to determine the relative values of the four practices or methods, it was first necessary that the initial-test scores on all four sheets for each class be equal with respect to both means and standard deviations. In spite of the care which had been taken in constructing the four sheets to secure equal difficulty, considerable differences between the mean scores under all four methods were discovered in each class. In order to secure equal initial mean scores, therefore, it was necessary to eliminate from consideration the data for certain test items. The number of pupils, the number of test items, and the mean initial-test scores resulting from this procedure are shown in Table I. That the initial scores are sufficiently nearly

equal in means and standard deviations to be considered identical is proved by these facts: Under Methods 2 and 3 the means for Class VIII-1 differ by .1 and the standard deviations by ±2.8. The latter difference is the largest difference in standard deviations accompanying a difference in means to be found in the entire table. When the difference in means in this case is divided by the standard deviation of the difference in means,[1] however, the result is only .07, or about

TABLE I

MEAN SCORE AND STANDARD DEVIATION FOR EACH CLASS UNDER EACH METHOD IN THE INITIAL TEST

CLASS	NUMBER OF PUPILS	NUMBER OF TEST ITEMS	METHOD 1		METHOD 2		METHOD 3		METHOD 4	
			Mean Score	S.D.	Mean Score	S.D.	Mean Score	S.D.	Mean Score	S.D.
VII-1	21	19	14.0	2.5	14.0	3.3	14.0	2.9	14.0	2.3
VII-2	36	23	16.6	3.6	16.6	3.6	16.6	4.2	16.6	3.8
VIII-1	24	19	14.3	3.0	14.4	3.6	14.3	6.4	14.3	2.8
VIII-2	21	23	12.6	3.5	12.6	2.5	12.6	2.4	12.6	3.4
VIII-3	48	22	14.9	2.9	14.8	3.0	14.9	2.5	14.9	3.4
IX-1	40	19	12.7	3.6	12.7	3.5	12.7	3.0	12.7	3.4
IX-2	29	26	19.3	3.7	19.3	4.7	19.3	3.3	19.3	3.6
X-1	17	21	14.1	5.7	14.1	3.9	14.1	4.2	14.1	3.5
X-2	32	32	19.9	5.5	19.9	5.5	19.9	4.8	19.9	5.2
XI-1	18	27	20.0	5.1	20.0	4.6	20.0	4.0	20.0	4.4
All classes	286	.....	16.2	4.0	16.2	4.0	16.2	3.7	16.2	3.9

7 per cent of the maximum value which the result might have in order for the initial scores still to be considered statistically equivalent.

Table II shows the results of administering the four sheets a second time as a test of immediate recall. Table III shows the significance of the results of the test for immediate recall presented in Table II.

It will be noted from Tables II and III that in the test for immediate recall Method 1, that in which the pupils corrected their own papers, was slightly superior to Method 2 in all classes but

[1] For convenience the following partial formula was used:

$$S.D._M = \sqrt{\left(\frac{S.D._1}{\sqrt{N_1}}\right)^2 + \left(\frac{S.D._2}{\sqrt{N_2}}\right)^2}$$

The complete formula would increase only slightly the value obtained by this formula.

three—Classes VII-1 (in which the results were the same), IX-1, and XI-1; to Method 3 in all classes but three—Classes IX-1, IX-2, and XI-1; and to Method 4 in all classes. Only three of the differences

TABLE II

MEAN SCORE AND STANDARD DEVIATION FOR EACH CLASS UNDER EACH METHOD IN THE TEST FOR IMMEDIATE RECALL

CLASS	METHOD 1		METHOD 2		METHOD 3		METHOD 4	
	Mean Score	S.D.	Mean Score	S.D.	Mean Score	S.D.	Mean Score	S.D.
VII-1	16.7	2.9	16.7	2.1	16.1	2.0	15.7	2.0
VII-2	20.3	3.6	19.8	2.8	20.2	2.6	18.7	3.2
VIII-1	17.6	1.7	16.8	2.5	17.4	2.7	16.1	2.6
VIII-2	17.9	3.2	17.1	2.9	16.6	2.7	14.3	4.3
VIII-3	18.5	2.2	18.3	2.8	18.1	2.7	16.3	2.9
IX-1	16.6	2.6	17.0	3.0	16.8	2.3	15.8	3.5
IX-2	22.9	3.1	22.0	4.2	23.6	2.9	20.9	3.9
X-1	19.6	2.1	18.8	2.9	18.5	3.9	17.6	3.9
X-2	27.9	3.4	26.2	5.8	24.3	5.3	25.8	5.0
XI-1	22.8	4.2	23.3	3.7	23.1	3.9	21.9	3.8
All classes	20.5	3.6	20.1	2.8	19.9	2.8	18.7	5.0

TABLE III

SIGNIFICANCE OF THE DIFFERENCES IN THE TEST FOR IMMEDIATE RECALL BETWEEN THE FOUR METHODS AS SHOWN BY THE FORMULA $\frac{D_M}{S.D._M}$ (X) AND BY THE INTERPRETATION OF THE QUOTIENT AS THE NUMBER OF CHANCES IN A THOUSAND (Y) THAT, IF THE INVESTIGATION WERE REPEATED, THE RESULTS WOULD BE THE SAME

CLASS	METHODS 1 AND 2		METHODS 1 AND 3		METHODS 1 AND 4		METHODS 2 AND 3		METHODS 2 AND 4		METHODS 3 AND 4	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
VII-1	.000	500	.781	783	1.302	904	.948	828	1.580	943	.648	742
VII-2	.658	745	.135	554	.199	579	−.628	265	1.553	940	2.184	986
VIII-1	1.298	903	.307	621	2.363	991	−.799	212	.950	829	1.698	955
VIII-2	.849	802	1.422	922	3.078	999	.579	719	2.472	993	2.075	981
VIII-3	.389	651	.796	787	4.187	999	.356	639	3.544	999	3.157	999
IX-1	−.637	262	−.364	358	1.160	877	.335	631	1.646	950	1.509	934
IX-2	.928	823	−.887	188	2.162	985	−1.689	46	1.034	849	2.991	999
X-1	.921	822	1.023	847	1.861	969	.254	600	1.018	846	.672	749
X-2	1.431	924	3.233	999	1.963	975	1.369	915	.295	616	−1.164	122
XI-1	−.379	352	−.222	412	.675	750	.158	563	1.121	869	.934	825
All classes	1.805	965	2.100	982	4.933	999	.771	780	4.173	999	3.631	999

by which Method 1 proved superior to Method 2, that in which the teacher checked the errors but did not correct them before the class discussion, are statistically significant, however—those in the cases of Class VIII-1, Class X-2, and all classes combined; these differences indicate that Method 1 was possibly superior to Method 2. The differences by which Method 1 was superior to Method 3, that in which the teacher corrected all the errors before the class discussion of them, are slightly greater than those by which Method 1 was superior to Method 2. Two of these differences, those in the cases of Classes VIII-2 and X-1 show possible superiority; the difference in the case of all classes combined shows probable superiority; and the difference in the case of Class X-2 shows practically certain superiority. The results for Classes IX-1, IX-2, and XI-1, however, show slight but not significant superiority of Method 3 over Method 1. Method 1 was found to be consistently and, with the exception of Classes VII-2 and XI-1, significantly superior to Method 4, that in which the teacher corrected the errors but did not subsequently discuss them with the class. Thus, the results for Classes VII-1, IX-1, X-1, and X-2 show possible superiority of Method 1 over Method 4; the results for Classes VIII-1 and IX-2 show probable superiority; and the results for Class VIII-2, Class VIII-3, and all classes combined show practically certain superiority. There is practically no difference between the results under Methods 2 and 3, although Method 2 was significantly superior to Method 4, as was also Method 3.

Table IV shows the results of administering the four sheets a third time as a test for retention or delayed recall. Table V shows the significance of the results of the test for retention presented in Table IV.

A comparison of Tables II and III with Tables IV and V shows that the differences between the results under the various methods are less in the case of the test for retention than in the case of the test for immediate recall. The differences are, however, similar. On the whole, Method 1 was found to be slightly superior to Method 2, somewhat superior to Method 3, and consistently superior to Method 4. There seems to be little choice between Methods 2 and

3, for, although all but three of the differences are in favor of Method 2, the largest difference, that in the case of Class IX-2, which indicates probable superiority, is in favor of Method 3. Both Method

TABLE IV

MEAN SCORE AND STANDARD DEVIATION FOR EACH CLASS UNDER EACH METHOD IN THE TEST FOR RETENTION

CLASS	METHOD 1		METHOD 2		METHOD 3		METHOD 4	
	Mean Score	S.D.	Mean Score	S.D.	Mean Score	S.D.	Mean Score	S.D.
VII–1	15.3	1.9	15.7	2.3	15.3	2.4	15.6	2.0
VII–2	19.1	3.3	18.1	3.8	18.9	3.8	18.1	2.9
VIII–1	15.9	2.6	16.1	2.9	15.8	2.7	15.5	2.8
VIII–2	15.7	3.2	15.5	3.0	15.4	2.9	13.5	2.9
VIII–3	17.2	2.6	16.5	3.2	17.1	2.3	15.1	3.4
IX–1	15.6	3.1	15.6	3.3	15.0	3.2	14.4	3.9
IX–2	21.4	3.8	20.9	4.1	23.4	3.6	20.3	4.9
X–1	18.8	2.6	17.1	4.1	16.5	4.0	16.1	3.9
X–2	24.7	5.2	23.7	5.9	21.8	5.4	24.5	4.3
XI–1	21.7	3.8	22.1	3.3	22.0	4.3	20.8	4.3
All classes	19.0	4.3	18.5	4.2	18.4	4.4	17.4	6.0

TABLE V

SIGNIFICANCE OF THE DIFFERENCES IN THE TEST FOR RETENTION BETWEEN THE FOUR METHODS AS SHOWN BY THE FORMULA $\frac{D_M}{S.D._{D_M}}$ (X) AND BY THE INTERPRETATION OF THE QUOTIENT AS THE NUMBER OF CHANCES IN A THOUSAND (Y) THAT, IF THE INVESTIGATION WERE REPEATED, THE RESULTS WOULD BE THE SAME

CLASS	METHODS 1 AND 2		METHODS 1 AND 3		METHODS 1 AND 4		METHODS 2 AND 3		METHODS 2 AND 4		METHODS 3 AND 4	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
VII-1	− .634	263	.000	500	− .498	309	.551	709	.150	560	− .441	330
VII-2	1.193	884	.239	595	1.307	904	− .894	186	.000	500	1.004	842
VIII-1	− .252	401	.136	554	.513	696	.371	645	.729	767	.378	647
VIII-2	.209	583	.318	625	2.334	990	.110	544	2.198	986	2.124	983
VIII-3	1.177	880	.200	579	3.399	999	− .896	185	2.077	981	3.380	999
IX-1	.000	500	.851	803	1.524	936	.825	795	1.485	931	.738	770
IX-2	.481	685	−2.057	20	.955	830	−2.465	7	.506	694	2.746	997
X-1	1.442	925	1.988	977	2.373	991	.432	667	.729	767	.295	616
X-2	.720	764	2.187	986	.168	567	1.343	910	− .620	268	−2.214	13
XI-1	− .337	368	− .222	412	.665	747	.078	531	1.020	846	.837	799
All classes	1.247	894	1.484	931	3.450	999	.256	601	2.441	993	2.207	986

2 and Method 3 were found to be superior to Method 4 although not consistently so. In Class X-2 the differences were in favor of Method 4 in the case of both Method 2 and Method 3—in fact, Method 4 was probably superior to Method 3.

Table VI shows the degree of accuracy with which the pupils were able to correct their own examination papers under Method 1 as determined by the teachers' earlier, though unindicated, correction of the same papers. This table indicates that the pupils were able

TABLE VI

PERCENTAGE OF ERRORS MADE BY PUPILS IN CHECKING THE INCORRECT RESPONSES ON THEIR OWN PAPERS

Class	Percentage of Errors
VII-1	5.7
VII-2	5.8
VIII-1	1.5
VIII-2	3.6
VIII-3	4.5
IX-1	0.2
IX-2	2.1
X-1	3.1
X-2	3.3
XI-1	0.4
All classes	2.8

to check the incorrect responses on their own papers with a degree of accuracy which would probably be considered sufficiently high to justify the practice. The two seventh-grade classes were the least accurate, making approximately one error in every seventeen test items corrected. One of the ninth-grade classes in biology was the most accurate, making errors at the rate of only one in every five hundred items corrected.

It is the authors' intention to investigate in a similar manner the relative values of other common practices in correcting examination papers.

SUMMARY

In so far as the results of the investigation here reported may be indicative, it seems reasonable to conclude that when new-type

examinations are made a teaching device, as in this investigation, the method of correction which requires the least of the teacher's time and energy, namely, that under which the pupils check the incorrect items on their own papers during a discussion of the test items, is the most profitable for the pupils of the four methods studied. Pupils from the seventh grade through the eleventh grade, moreover, are able to correct their own papers with a degree of accuracy which is probably sufficiently high. The method which does not provide for systematic discussion of the test items apparently results in considerably less value to the pupils than does any of the three methods which provide such discussion. The laborious method by which the teacher corrects all errors on each paper seems not only wasteful of the teacher's time and energy but also entirely unjustified in the light of subsequent benefit to the pupil.

A FUNCTIONING BOYS' CLUB

F. D. FRISBIE
New Trier Township High School, Winnetka, Illinois

It is generally recognized by educators that secondary education in America has as one of its main objectives the training of young people for participation in the affairs of life. In the effort to provide such training, progressive high schools have modified the curriculum and introduced personnel work. The New Trier Township High School, Winnetka, Illinois, has organized a complete system of personnel activities. This system is intimately related to the adviser system. This article describes the operation of a boys' club which co-operates in an important way with the adviser system of the school and supplements this system at several points.

There is need in every high school for a general organization to give expression to the interests, needs, and desires of the boys. Such an organization exists in the New Trier Township High School and is known as the Tri-ship Boys' Club. The membership includes every boy who is registered in the school. "Tri" as a part of the name was taken from "Trier." "Tri" is also used in its numerical sense to indicate that the club has three aims, namely, fellowship, citizenship, and sportsmanship. These general aims are interpreted as including certain specific aims. The club aims to assist the administration of the school by developing pupil morale, solving pupil problems, and serving as a means of contact with the community. The club aims to assist the pupils collectively by improving pupil morale, carrying on social enterprises, supporting pupil activities, enlisting community support, and serving as a means of contact with other high schools. The club aims to assist individual pupils by providing wholesome activities, creating pupil help committees, extending help when necessary, and developing friendly attitudes.

The club has the usual officers, chosen by all the boys in the school. These officers make up an executive committee. This executive committee appoints special committees whenever occasion

arises. The general program of activities is discussed at weekly meetings of representative boys.

The boys and girls in the schcol are divided into groups of about thirty each. Each group meets each morning for half an hour. Representatives are chosen by the various boys' groups, and these representatives meet on Monday during what is known as the adviser period. All matters pertaining to the boys' club are dealt with in the meetings of these representatives. Time is afforded for the discussion of those problems of the school which are of specific interest to the boys. The Monday meetings also afford an opportunity for determining pupil opinion, and they provide a direct avenue of approach to all boys.

An organization of this type is justified to the degree to which it contributes to a realization of the general objectives of the school. The following activities constituted the larger part of the program for the last school year and indicate the extent to which the club contributes to the life of the school community.

A large room was made available for club purposes through the completion of a new gymnasium. A committee was appointed to determine the uses to which the room could most satisfactorily be put. Another committee worked in conjunction with this first committee to select furniture suitable for a boys' clubroom. As a result, the clubroom was supplied with chess tables, magazines, a radio, and a phonograph. Here the boys gather during lunch periods and after school. During class periods the room is used as an honor study hall, to which boys selected from all four classes may go. The room is entirely under pupil supervision The supervision has proved to be entirely satisfactory to the administration. The furnishing of the room was made possible by a gift of one half the cost from an interested citizen. This gift was made on the condition that the boys raise the other half. Ninety-six per cent of the boys made contributions of a dollar each, and the rest of the money was raised by means of a dance.

Four evening dinners were held each semester. There were inspirational speakers at these dinners, and recreational numbers were provided. These occasions also furnished the opportunity for holding the Father-and-Son Banquet, the Freshman reception, etc.

On invitation of the Tri-ship Boys' Club, sixty-five boys and faculty advisers from the other schools in the local athletic league met at the New Trier Township High School to discuss pupil activities and other problems common to the various schools. As a direct result of this meeting, there was created an organization known as the Suburban League Boys' Council, which promotes friendly relations between the pupil bodies of the suburban-league high schools. The new organization aims to bring the members of the various schools into contact with one another on other than a competitive basis. Last spring this organization sponsored a banquet attended by more than three hundred boys representing all the schools in the suburban league.

Special committees of the club have assisted the dean's office in the solution of several pupil problems. An extensive Christmas charity program provided help for twenty families. A special assembly lecture by Captain Donald MacMillan was arranged. At the time of the district basket-ball tournament at the New Trier Township High School boys were sent to the other schools which entered the tournament as friendly representatives to acquaint the schools with the conditions of the tournament and to extend to them cordial invitations. Each year at commencement, after receiving recommendations from the boys through their adviser groups, the executive committee of the Tri-ship Boys' Club makes an honorary award to the boy who most fully approaches the ideals of the club in fellowship, citizenship, and sportsmanship. This award is unique in that it is an award made entirely by the boys of the school.

An organization of the type here described makes a direct contribution not only to the needs and interests of the pupils individually and collectively but also to the administration of the school. A sympathetic administration is essential to such an organization. A progressive school will welcome such a club as an aid in carrying out the purposes of secondary education.

Educational Writings

REVIEWS AND BOOK NOTES

A study of adult reading.—Under the auspices of the Carnegie Corporation of New York, the American Association for Adult Education, and the American Library Association, a preliminary study of reading habits has recently been made. This preliminary study is to furnish the basis of plans for a thorough investigation. *The Reading Interests and Habits of Adults*[1] reports the results of the preliminary study.

Chapters ii–v are a digest of published and unpublished investigations relating to reading interests and habits. This summary is organized under the following topics: "The Status of Reading in American Life," "The Amount and Character of Adult Reading and Factors That Influence It," "The Reading Interests of Special Groups of Young People and Adults," and "The Interests of Children in Reading."

Chapters vi–ix deal with the results of case studies of reading interests and habits.

> The case studies fall naturally into three groups. The first includes studies of the reading interests and habits of one hundred adults of an urban community, namely, Hyde Park, Chicago, which were made by means of brief interviews. The second includes similar studies of 170 adults in a suburban community, namely, North Evanston, Illinois. The third includes more intensive studies of a small number of adults in whom the reading habit was well established [p. 5].

The final chapter summarizes the conclusions suggested by the evidence presented in the entire report.

The technique of making the studies is described, and the results obtained are analyzed, in considerable detail. A bibliography of the studies referred to in the report is presented at the end of the book.

The summaries of the previous studies and the new investigations are very well prepared. The report is a significant contribution to the literature of adult education.

R. H. Ojemann

University of Kansas

[1] William S. Gray and Ruth Munroe, *The Reading Interests and Habits of Adults*. New York: Macmillan Co., 1929. Pp. xiv+306. $3.50.

Selected readings in extra-curriculum activities in the junior and senior high school.—High-school teachers who are pressed for time and have little opportunity to search out periodicals should welcome a volume[1] of carefully chosen readings in extra-curriculum activities. The editors have avoided material previously published in textbooks and other bound volumes on the assumption that such material is more easily obtained than are the magazines which contain special articles.

The book contains 127 articles and covers a wide range, including nearly everything that is ordinarily considered under the head of extra-curriculum activities. For example, there are well-chosen discussions of underlying principles, social and moral outcomes, organization and administration, home-room and assembly activities, pupil participation in school control, internal accounting, dramatics, libraries, and fraternities and sororities.

The editors state that they gathered the readings from a vast store of material, reducing the literature from about four thousand pages to about eight hundred. On the whole, the selections seem to have been wisely made, but it seems to the reviewer that the size of the book might have been still further reduced as there is some repetition, and occasionally quotations in one article are taken from other articles that appear elsewhere in the book. The most interesting material is that which describes actual practice in a number of high schools. Any layman who might read the book would no doubt be surprised at the extent of extra-curriculum activities in the larger high schools and the amount of money involved in their management. The book is not likely to appeal to the layman, however. It was prepared for sponsors of extra-curriculum organizations and students of education.

Most of the chapters in which controversial matters are considered include articles on both sides of the question at issue. However, the earnest student is left with a one-sided view of pupil participation in school control, fraternities and sororities, and high-school honor societies. Such a student should go far beyond this book in his search for enlightenment.

Many excellent ideas are contained in the readings, however, and the book should be a part of the professional library of every high-school teacher and principal. Its chief value lies in the fact that it assembles into one volume material that is scattered far and wide. Possibly a list of readings of this type in other fields would prove useful to the busy teacher or administrator.

Nearly one-fourth of the articles included were taken from the *School Review*. Others originated in the proceedings of the National Education Association, yearbooks of the Department of Secondary School Principals, the *Journal of the National Education Association*, and *School and Society*. In addition to these, about twenty other magazines were used as sources one or more times.

The editors are men of wide experience in the field, both practical and theo-

[1] Joseph Roemer and Charles Forrest Allen, *Readings in Extra-curricular Activities*. Richmond, Virginia: Johnson Publishing Co., 1929. Pp. xvi+844. $3.00.

retical, and the authors of the well-known book *Extra-curricular Activities in Junior and Senior High Schools.*

H. E. DEWEY

Extra-curriculum activities at a university.—College and university administrators throughout the country are becoming aware of the fact that they have known little of many of their own problems. During the last few years a number of books on various phases of higher education have been published. Certain institutions have established research groups to study facts which have been either unknown or taken for granted. From one of these institutions comes a report[1] on the extra-curriculum activities of the students in a great state university.

The report presents the results of a survey of existing conditions. There is little embodied beyond an actual statement of the facts as found. In general, the reader can draw his own conclusions if he wishes.

A committee undertook to "determine the educational and social value of student extra-curricular activities at the University of Minnesota." The members of this committee soon found, however, that they could do nothing toward evaluation without a knowledge of the facts. The facts were secured from the students and several hundred alumni by means of questionnaires. The report presents a list of all extra-curriculum organizations on the campus, the number of students by schools and classes participating in each, a detailed account of the activities of a group of student "leaders," the relation between student activity and academic marks, the average amount of time per quarter spent in each activity, and the carry-over of extra-curriculum activities into life.

The report will be of interest to college administrators in general. Conditions undoubtedly vary greatly from college to college, but the general findings will probably prove to be true in most large universities similarly organized. The techniques and the general plan may be helpful to other institutions wishing to make similar surveys. With the exception of the conclusions, the report is not interesting reading. The tables, of which there are a great many, present almost too much data, but they are fairly clear. The book is in no sense a textbook and was not intended to be such.

Probably the most interesting fact revealed is that the colleges are undertaking such studies as that described in the report. Whether they are following the lead of the high schools or are suddenly discovering what, to them, are new fields is difficult to say. It is evident, however, that the extension of research into the facts and problems of higher education is well under way.

GEORGE R. MOON

Guiding criteria in the establishment of a public junior college.—The junior-college movement has extended to various parts of the United States and has

[1] F. Stuart Chapin, assisted by O. Myking Mehus, *Extra-Curricular Activities at the University of Minnesota.* Minneapolis, Minnesota: University of Minnesota Press, 1929. Pp. x+140. $2.00.

taken somewhat different forms in different states. In the western part of Pennsylvania, the University of Pittsburgh has established a junior college as an extension of its work. The trustees of an academy at Mount Pleasant, Pennsylvania, requested the University of Pittsburgh to establish a junior college in connection with this academy. An investigation of the advisability of establishing such an institution was the occasion for a recent publication.[1] The one question studied was the best location in southwestern Pennsylvania for resident courses for college Freshmen and Sophomores. The criteria set up for establishing a junior college under the auspices of the University of Pennsylvania were (1) economic stability, (2) social-racial normality, and (3) educational achievement and potentialities. In addition, studies of (1) the size, nature, and scatter of the general population, (2) the size, nature, and scatter of the high-school population, (3) the adequacy of transportation facilities, and (4) the status of the city as a civic center were made.

The requirements set up by the University of Pittsburgh are presented, as are those of the American Council on Education. Koos is frequently cited as authority. Trends of general population and of high-school and college enrolments in the country at large are discussed. Data covering these points for the section of Pennsylvania under consideration are exhibited in a series of tables. The number of graduates of each of the several high schools for the years 1924–27 and the number of these graduates who have entered various higher institutions of learning are reported. The distances students would have to travel in order to reach the junior college if it were located at Mount Pleasant are contrasted with the distances students would have to travel if the institution were established elsewhere. Transportation facilities are exhibited. The type of population of the region both as to possible regular students and as to possible students in extension and after-session classes was investigated.

The conclusion is reached that southwestern Pennsylvania offers a real opportunity for a junior college, but "the facts herein reviewed point to Uniontown as the favored place for establishing a junior college or a branch of the University of Pittsburgh." The conclusions and the recommendations seem well considered in the light of the evidence submitted. The study was well conceived, and the technique was effectively carried out.

G. W. WILLETT

LYONS TOWNSHIP HIGH SCHOOL AND JUNIOR COLLEGE
LA GRANGE, ILLINOIS

Methods of teaching current events.—With more than four hundred books in the field of education published annually, one does not expect to see an entirely new title very often. *Current-Events Instruction*,[2] however, is a new title. The

[1] John T. Morris, *Considerations in Establishing a Junior College.* Teachers College Contributions to Education, No. 343. New York: Teachers College, Columbia University, 1929. Pp. 64. $1.50.

[2] Reginald Stevens Kimball and Others, *Current-Events Instruction:* A Textbook of Principles and Plans. Boston: Houghton Mifflin Co., 1929. Pp. viii+310. $2.00.

demand for such a book comes as a result of the increase in current-events instruction in the public schools during the past decade. The new interest in world-affairs as a result of our participation in the World War and the demand for the introduction of a new type of social studies into our schools have had much to do with this development.

While the usefulness of such instruction has been recognized by many, just what may and should be taught and how to teach it are not yet so well understood. The author has attempted to meet the need "by working out a small and compact text designed to show how the new instruction may and should be given and setting forth the goals for such instruction" (p. v).

The author believes that the rise of current-events instruction to its present status is due to "(1) a new attitude on the part of the public toward important national and international affairs, (2) a changing conception of the curriculum, (3) the appeal to the student, (4) certain qualities of the subject (challenge to enterprise and initiative of teachers, flexibility, timeliness, adaptability, etc.), (5) the development of a distinctive current-events literature" (p. 3).

The aims set up for current-events instruction are (1) "to prepare students for meeting real life-situations," (2) "to add interest to all subjects in the curriculum . . . . keep the subjects up to date," (3) to train pupils "in ability to withhold judgment until both sides of a case have been presented," and (4) to give pupils "considerable training in the use of periodicals" (p. 9).

The most useful chapter in the book for the classroom teacher is that entitled "Types of Lessons in Current-Events." The methods of teaching discussed are (1) the textbook method, (2) the assigned-topic method, (3) the committee method, (4) the laboratory method, (5) the socialized recitation, and (6) the lecture method. No one of these methods is recommended as best for all cases or even for most cases. The teacher will need to select the method which best fits the material to be presented.

Other interesting and useful chapters are "The Backward-Development Lesson," "The Geographic Background of Current Events," "The Use of Visual Aids in Teaching Current Events," and "Current Events and the Teaching of English." The chapter "Games and Contests for the Current-Events Class" describes a large number of "games and contests" which are expected to motivate interest in the study of current events. Many of the games are very juvenile, and the use of most of them may well be questioned on the ground that the interest would be in the games rather than in the current events.

A series of model lesson plans for different grades helps to make clear to the reader the method of handling large "functional units." These plans are detailed and very suggestive to the teacher who wishes to improve her method. The Appendix contains a complete bibliography.

The book is a pioneer in the current-events phase of education. It is largely a compilation of materials that have appeared previously in various periodicals, but the author has rendered a genuine service in assembling them in compact form in a single book with comments that tend to unify them.

ERIC OSCAR MAY

TOWNSHIP HIGH SCHOOL, ROBINSON, ILLINOIS

An anthology of essays.—Bertha Evans Ward has published a collection of modern essays[1] designed for young readers. A twofold purpose furnished the reason for offering this collection in a field already crowded with good anthologies. The principal objective, as set forth by the editor, is to catch the pupil's initial interest in this form of literature and to foster it in such a manner that he will be encouraged to do more reading in the field than he could do in the regular class work. The second aim of the book is to stimulate the pupil's desire for self-expression through creative writing.

To accomplish the first objective, the editor chose her selections to meet the needs of her special group of readers—high-school pupils—and had as her criterion in the selection of material the interests of young people. To provoke thought, to arouse discussion, and to encourage further reading, as well as to fulfil the second aim of the book—stimulation of the desire to write—the editor has provided at the end of each essay a brief sketch of the author, study helps, theme subjects, and a list of additional essays. Comparisons are suggested with essays in the book and with other essays easily obtainable.

Very readable introductory essays by the editor herself—"On the Enjoyment of Essays," "On Defining the Essay," and "On the Development of the Essay"—preface the collection. The appendixes include essays by high-school pupils as specimens from a laboratory of writing; an additional list of essays, classified in groups, such as "Essays on the Events of Everyday Life," "Essays on Travel," and "Well-known Essays of an Earlier Date—Chronologically Arranged"; and titles and publishers of compilations of essays for use in the high school.

To the possible objection that many finished essays have been excluded in favor of essays of the lighter, informal, personal type, the editor presents the reply that the collection is to serve not as a full meal but merely as an appetizer. Many pupils would prefer to have the brief biographical sketch of the author before rather than after his essay. The book contains some excellent selections and should supplement the modern material of a well-rounded unit on the essay.

ROBERT SHILEY

English usage.—The introduction of another textbook in composition-grammar into the already crowded field can readily be justified in the case of a recent book[2] planned for the ninth and tenth grades. It is a noteworthy contribution to the textbook literature in this field. It attempts very successfully to stimulate vigorous thinking on the part of the pupil—to draw out the individual, to get him to react to his own environment—and thus to eliminate the questions "What shall I write about?" "How long does it have to be?" The "Notebook Suggestions and Assignments" offer suggestions which encourage the pupil to

[1] *Essays of Our Day.* Edited by Bertha Evans Ward. New York: D. Appleton & Co., 1929. Pp. xvi+412. $1.48.

[2] Lucy H. Chapman, *Using English.* New York: Harcourt, Brace & Co., 1929. Pp. xii+498.

express his experiences. The creation of actual life-situations and the many original devices, such as cartoons and illustrative materials from books and magazines, furnish the material for motivation. The titles of the chapters in Part I show that the author has related the composition material to the expressional situations which every pupil meets.

The purpose of Part II of the book is to train the pupil to express his thoughts clearly and adequately. The training in grammar and punctuation is planned so that the pupil can determine his weaknesses by means of diagnostic tests and measure his progress by means of mastery tests. The book is addressed to the pupil and tries to get him to accept the responsibility for determining and eliminating his errors. The material in this part covers those phases of composition work which cause the most difficulty during the early high-school years.

Individual differences of pupils are provided for in the chapter entitled "Opportunities for Adventurers," which is addressed to those children who want to undertake extra work. The chart on the inside cover should be an excellent aid to the teacher for it will save her the necessity of making repeated explanations and should enable the pupil to find a particular rule quickly. The numerous cartoons which appear throughout the book are closely related to the text and ought to arouse and hold the interest of the pupils. The book is attractively bound; the paper is good; the type is clear. The book deserves the attention of every English teacher who is abreast of the most recent developments and tendencies within the field.

CAROLINE H. GARBE

HIGH SCHOOL, BRONXVILLE, NEW YORK

A collection of scientific essays for literary study.—The thought and spirit of science as well as the personalities of the great scientists themselves can hardly be brought to the average citizen save through the medium of the literature in which they have been caught. Attempts are now being made to give high-school pupils the contact with this literature that they need for a true concept of the literary wealth of the world. One of the requirements of the College Entrance Examination Board in English is now "a collection of scientific writings (about 150 pages)." To meet this requirement specifically and to meet the general need for scientific literature in a form usable for class study, a new collection[1] has come from the English Department of a New York City high school.

Included in this collection are twenty extracts and articles from the writings of scientists of the last sixty years. The authors and the subjects have been well selected to give a wide acquaintance with the field. The pure scientists are represented by such workers as Millikan, Steinmetz, and Madame Curie. Huxley, Fabre, Wallace, and Beebe have made more of a point of interpreting their science to the world at large. Slosson and Serviss have also made popular interpretation their chief business, while Robinson interprets the "Scientific

[1] *Science in Literature:* A Collection of Literary Scientific Essays. Edited by Frederick Houk Law. New York: Harper & Bros., 1929. Pp. xviii+364. $1.20.

Revolution" from the historian's point of view, and Bostwick gives suggestions for biographical reading. As is to be expected from the trend of this century, from which three-fourths of the selections are taken, there is a preponderance of material related to the physical sciences, but biology, physical geography, and geology are sampled.

The book is well arranged for class use. The articles are, for the most part, less than fifteen pages in length. Teachers may readily choose several for study and arrange them in any order desired. It is probable that many pupils would read the other articles voluntarily or with only a little encouragement. Plentiful footnotes explain classical and personal references. Following each essay is a series of questions, the trend of which suggests the study of subject matter rather than of literary value and form, although a few questions on the latter are included.

The list of books for further reading at the end of each essay is worth special notice. In each list are included books by the author of the essay and books by other authors on related subjects. These books are well selected and favorably known and, ranging from very easy to distinctly thoughtful types, constitute an unusual bibliography of scientific literature for the average reader.

Much of the material included in the book probably does not rate as high in literary form as do the more commonly used classics, but its use in high-school classes should prove fully as valuable. The book is of high natural interest and introduces the pupils to a field of modern literature in which they can readily be induced to continue their activity in after-life. Science teachers can also make use of it for instructive and inspirational supplementary reading in their classes.

JOHN C. MAYFIELD

A three-semester textbook in Latin.—After the appearance of the report of the Classical Investigation, numerous first- and second-year Latin textbooks for use in the secondary school were published. In the main, the aim of all of them is to teach the pupil to read Latin through an abundance of connected discourse and to provide him with at least the minimum essentials of form and syntax. An examination of textbooks published before and after the publication of the report would show an increase in the amount of connected Latin and less emphasis on form. While the books are primarily alike in aim and objectives, they vary in their manner of presentation, much as the classroom methods of presentation differ.

Beginnings of Rome for Beginners in Latin[1] is no exception to the rule. Since the book is designed for use in the first three semesters, it has an unusually large amount of connected Latin. It presents what the author considers the essentials of grammar. The stories conform to the traditional type—tales of

[1] Raymond F. Haulenbeek, *Beginnings of Rome for Beginners in Latin.* New York: Harcourt, Brace & Co., 1929. Pp. xxviii+458. $1.60.

Roman and Greek life and religion. Fortunately, there is more narration than exposition. Teachers may find that the difficulty of the material develops at a rate too rapid for the average class.

The author makes the following statement in the Preface.

> The book differs from the usual type in two major features. The pupil's knowledge of the language is developed in conjunction with a continued story. The other chief departure from the traditional method is in development of forms. The first three declensions are developed "in parallel," one case to a lesson [p. vii].

The serial story, which is the account of Romulus and Remus, contains all the necessary principles of syntax. A translation appears above each line of Latin of this story "so that the pupil whose past work is well done can read at sight" (p. vii). How this device provides sight reading is not clear.

The author emphasizes isolation of person in teaching tenses; for example, an entire lesson is devoted to the third person active of all conjugations. This plan is designed to eliminate confusion of forms and overemphasis on the first conjugation. Much is made of synopses in verb study.

The book gives an impression of great length and detail. The lessons contain from three to five pages each, and there are sixty-one lessons. The type is small. A rather ambitious program has been outlined, but the judicious teacher may cull wisely to suit her needs.

The book furnishes good supplementary reading material, but the abundance of syntax and forms makes it impractical for teachers of the reading method. The Latin stories, with the exception of the Romulus and Remus narrative and its accompanying translation, will be welcomed. Advocates of the grammar-translation method will find little that is new in the book.

MARJORIE FAY

Characteristic distinctions between various theories of psychology.—The past decade has witnessed a considerable number of significant contributions to the science of psychology. Techniques have been refined; large quantities of data have been added to the accumulated store; and new departures in fundamental concepts have been postulated. Since the contributions of psychology are of vital importance to the science of education, it is highly desirable that all who are engaged in educational work should know and understand the new developments in the field of psychology.

Teachers and general readers will no doubt welcome the book[1] in which Professor Bode interprets various theories of psychology and the educational significance of each. Certain parts of the book should also prove helpful as reference material for classes in educational psychology.

As stated by the author in the Preface, "the central theme of this book is

[1] Boyd Henry Bode, *Conflicting Psychologies of Learning*. Boston: D. C. Heath & Co., 1929. Pp. iv+306.

the nature of mind. It is written in the conviction that the question of mind is of central importance both for teaching method and for our whole program of education" (p. iv). The point of view of the author is summarized excellently in the foregoing quotation. Thus, the content of the book includes not only the various theories as to the nature of mind but also the author's interpretation of the educational significance of each.

The material is organized in semi-historical sequence. A brief bibliography, based, for the most part, on materials actually cited in the text, follows each chapter. The author presents first the theory of mind as a separate entity as contrasted with matter. He introduces next the theory of consciousness or mental states as a step in development but shows how this theory also is based on *dualism*. Then he shows how the rise of physiological psychology led toward behaviorism and explains what the theory involves. Finally, he distinguishes between behaviorism and the *Gestalt-Theorie* and presents his own concept of the nature of mind. This he terms "the pragmatic point of view," and on this point of view he proceeds to build up his philosophy of education.

In his explanation of the various fundamental theories, the author has succeeded in presenting a clear and concise statement of the characteristics of each. His illustrations are well chosen and forceful. His explanations of formal discipline, transfer of training, the culture-epoch theory, configurations, instincts, reflexes, phrenology, habit formation, "the conduction unit," and purposive behavior are very well written for readers with limited training in psychology.

In the evaluations of these theories, however, there is a strong suggestion of mere verbalism. That such evaluations might be expected may be inferred from the following quotation. "In spite of the fact that psychology prides itself on being a science, its deepest problems are of a kind that cannot be solved by the application of scientific technique" (p. iii). Perhaps this statement is true, but it seems rather doubtful whether these "deepest problems" can be solved by the application of *philosophy*. Nevertheless, the explanations offered, the principles set forth, and the philosophical theories proposed are stimulating and challenging. Note the following:

> If the foregoing discussion is correct, then most of the industry called the "scientific determination of objectives" is on a par with catching birds by putting salt on their tails [p. 301].
>
> It is time to recognize the fact that the study of education, in spite of all the advances that have been made, must necessarily suffer from a certain futility and triviality if we persistently disregard the deeper issues [p. 301].

Whether Professor Bode has relieved education of the futility and triviality to which he refers by the philosophy which he propounds, he has formulated a very commendable statement of the various theories of psychology relative to the nature of the human mind, and in that sense, if in no other, his book is a contribution to educational literature.

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